



*The wise choice*

# Chemicals and Reagents

Chemicals, Organic Standards, Chromatography,  
Glassware and Consumables



# THE COMPANY INTRODUCTION

Headquartered in Barcelona (Spain), Scharlab has experienced an outstanding growth in the last few decades. This has led us to have direct presence in 11 countries and enabled us to develop a worldwide presence through a distribution network, covering over 100 countries.

The company was founded in 1949 in Barcelona under the name of FEROSA as an organic compounds synthesising company. In 1954, this company was bought by Paul Scharlau, a second generation German in Spain. He then reached an agreement with the German company Dr. Theodor Schuchardt to distribute their laboratory chemicals and to manufacture under license in Spain.

In 1970, Schuchardt was sold to Merck-Darmstadt and FEROSA had no alternative but to start selling chemicals under a different name. Thus the Scharlau brand was born in 1971. Thousands of purification processes were consequently perfected to offer reagents of exceptional purity.

In 1980, Paul Scharlau passed away and his son, Werner, took over the business. The company then focused on providing high purity solvents in general and HPLC solvents in particular.

Between 1990 and 1997, the company added new product families to its portfolio, making a transition from a solvent manufacturer to a fully-fledged reagent company.

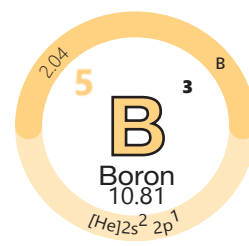
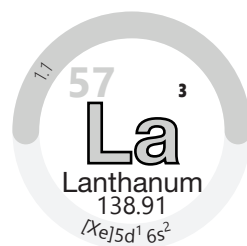
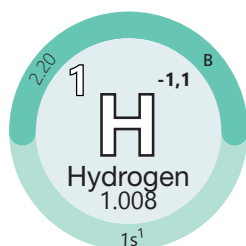
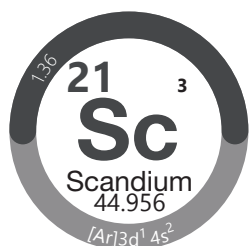
Since then, the company has added new business lines such as culture media for microbiology, laboratory glassware, plasticware, filters and chromatography accessories.

Today, the company offers a complete portfolio of laboratory supplies and operates under the Scharlab company name and Scharlau product brand, employing over 300 people. Scharlab does not belong to a private equity fund, which means it can focus on long-term goals that guarantee stability for both its customers and team.

**Scharlab is a company dedicated to design, manufacture and distribute products and services supporting scientists to achieve a better world.**

In this catalogue you will find all Scharlau branded products designed to be used in a Chemical laboratory: Chemicals and reagents, Organic standards, Chromatography supplies, Glassware and Consumables.

We hope that you find this new Catalogue useful, facilitating your daily work. Should you not find what you need, please contact us by email at [helpdesk@scharlab.com](mailto:helpdesk@scharlab.com). Alternatively, you may enquire via our web site [www.scharlab.com](http://www.scharlab.com)







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Caring about the environment  
is caring about you

We are committed to fulfilling or exceeding customer requirements by implementing a management system, which includes outstanding quality service and products, the preservation of the environment, while also ensuring the health & safety of personnel.

Since 1995 we have been operating a quality system in accordance with ISO 9001 requirements, and since 2002, an environmental system for our production unit according to ISO 14001. Scharlab also meets the Spanish legal requirements (law 31/95) regarding health & safety in the work place.

Scharlab is in the process of implementing ENAC accreditation for the ISO 17025 standard with respect to pH determinations in buffered solutions and volumetric solutions, to demonstrate the technical competence in assigning values for the reference materials produced. Once this certification is accredited, Scharlab will implement and accredit the ISO 17034 for the production of certified reference materials. In parallel, Scharlab already markets standard solutions for ICP, atomic absorption and organic standards produced in an ISO 17025 and ISO 17034 accredited laboratory.

We have an integrated manual for all three areas, including written procedures and documentation relating to the management of business in accordance with the requirements for this quality system.

A Quality Assurance department, independent from other operating units and reporting to the general manager, is responsible for the control, implementation and enhancement of this comprehensive management system.

## Specifications

All products we manufacture or distribute have written specifications available to customers via our catalogues and technical documentation. Our Technical Data Sheets (TDS) include the most relevant information on the product. Custom-made products according to customer specifications are also possible.

## Batch Documentation

Each product batch produced under the Scharlab brand is provided with a Certificate of Analysis (CoA) containing the guaranteed specifications, the current batch results, expiry date and relevant information regarding storage conditions if required.

## Certificates and Documentation

Details concerning the origin of a product such as BSE, GMO, allergens, etc., are available on request. However, such information is limited to those articles which are intended to be used in final products that have potential for exposure to humans or animals. Additional administrative fees may apply.

Documentation pertaining to regulatory affairs (DMF, CE mark, technical files for starting materials etc.) can be provided on the signing of a non-disclosure agreement between parties, if requested. Additional administrative fees may apply.

This documentation is not available for expired batches and superseded or withdrawn products.

## Expiry dates

All our products have an expiry date printed on the labels and Certificates of Analysis based on experimental or historical data.

Such dates indicate until when the product should fulfil its specifications when stored and used in accordance with the recommended conditions. We do not recommend using the product after this date.

Once opened, as a general rule, the product should meet the specifications if the recommended storage conditions are maintained. The CoA provided with the product includes details regarding any specific storage conditions that are recommended (refer to: 'Storage and Use'). In some cases, specific statements are issued for unstable products.

No retest dates are applied to our products.



# THE COMPANY

## QUALITY AND THE ENVIRONMENT

### Audits

Audits of our premises are permitted with prior notification.

Scharlab reserves the right to postpone, cancel or modify a scheduled audit.

### Customer Complaints

Scharlab handles customer complaints according to written procedures in the management system.

All customer complaints are investigated, and an official response is issued including, when appropriate, the corrective actions implemented.

An internal blog has been put in place on our Intranet, which allows everybody in the company to follow up the status of each complaint.

### Change Control

We consider any critical changes with regard to products, facilities and services that may affect pharmaceutical customers.

For that reason, Scharlab notifies significant changes of Pharmpur® products that should meet Pharmacopoeia requirements (except for reagents) to all customers registered in the automatic application recorded on our Intranet.



### Environmental Impact

Preservation of the environment is one of the company's main concerns. Scharlab works to ensure that natural resources and raw materials are used efficiently. Our new facilities in the chemical unit, located in a rural area, have been designed to reduce the impact on the surrounding countryside.

### Environmental Products and Services

We continue to work towards cleaner, safer products and consider the preservation of the environment in future projects. Thus, we are continuously searching for cleaner, safer ways to manufacture and package products and to provide services. Learn more about what we do for the environment by referring to details regarding our Returnable Drums Service and Packaging.







# Scharlab at your fingertips

Our website offers innovative solutions regarding to the information you are looking for, and puts powerful laboratory tools at your disposal.

## Corporate Website

### Products

#### ***Efficient product search***

The search engine has been optimised letting you find all our products more easily and intuitively.

- Quick product search
- Products classified by application
- Products classified by industry

#### ***Comprehensive information***

We include detailed information about:

- Product families
- Product grades/qualities
- Laboratory techniques
- Products used in production processes

### Services

Because a high-quality product needs a high-quality service, our challenge is to make your life easier.

#### ***Custom-Made Products***

To address the challenges facing professionals in laboratories, we offer a wide range of solutions developed by our R&D department and certified by our laboratory.

#### ***Returnable Drum Service***

A simple system for the management of solvents, providing drums for exclusive use by an individual customer.

### Media Room

Keep up-to-date with relevant information for your daily activities and the upcoming events which we will be attending.

### Labtools

Discover our tools for chemistry, which will support you in your daily laboratory activities.

- 3D Structure
- Abbreviations
- Apps
- Blends calculator
- GHS pictograms
- Interactive periodic table
- Molar mass calculator
- Molarity, normality
- Pathogen Guide
- pH indicator selector
- Solvents miscibility chart
- Synonyms
- Unit converter

### Support

Download all the documents you need:

- Certificates of Analysis
- Technical Data Sheets
- Safety Data Sheets
- ISO Certificates
- Catalogues
- Leaflets
- Other promotional material
- Video tutorials & podcasts
- FAQs regarding every product line

### Download this catalogue







# CHEMICALS AND REAGENTS

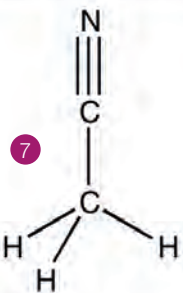
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# HOW TO USE OUR CATALOGUE YOUR WISE GUIDE

We include all the relevant information on our products. See below how to easily find any data you may need.

The bar colour of each grade/product corresponds to a specific quality summarised in the following Product Grade table. With this system, the end user can distinguish the desired grade of a certain product easily and rapidly.

**1 ACETONITRILE**



7

9 • Synonyms: Methyl cyanide, Cyanomethane 8

10 • CH<sub>3</sub>CN

11 • M = 41,05 g/mol

12 • CAS [75-05-8]

13 • EINECS-No.: 200-835-2

14 • Density: 0,786 g/cm<sup>3</sup>

15 • Solub. in water: (20 °C): miscible

16 • Melting point: -45,7 °C

17 • Boiling point: 81,6 °C

18 • Flash pt. 2 °C

19 • Ignition temp.: 524 °C

20 • Vapour pressure: (20 °C) 97 hPa

21 • Refraction index: (n 20 °C) 1,3442

• Dielectric const.: (20 °C) 37,5

14 • LD 50 (oral, rat): 2.730 - 3.800 mg/kg

15 • EC-Index-No.: 608-001-00-3

16 • ADR: 3 F1 II UN 1648

17 • IMDG: 3 II UN 1648

18 • IATA/ICAO: 3 II UN 1648

19 • GHS-signal word: Danger

20 • GHS-H sentences: H225 - H302 - H312 - H332 - H319

21 • GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P305 + P351 + P338 - P501a

• Tariff number: 2926 90 95 90

• Applications: chromatography, synthesis of organic products, solvents.

**2** AC0326 Acetonitrile, 99,9%, anhydrous (max. 0,001% H<sub>2</sub>O) **20**

<b>21</b> assay (G.C.)	min. 99,9 %	chromium (Cr)	max. 0,02 ppm	<b>4</b> ART. NO.	<b>5</b> VOLUME	<b>6</b> CONTAINER
identity (IR-spectrum)	passes test	cobalt (Co)	max. 0,02 ppm	AC03260100	100 ml	
density (20°/4°)	0,779 - 0,783	copper (Cu)	max. 0,02 ppm	AC03260500	500 ml	
appearance	clear	iron (Fe)	max. 0,1 ppm	AC03261000	1 l	
acidity	max. 0,0002 meq/g	lead (Pb)	max. 0,1 ppm			
alkalinity	max. 0,0001 meq/g	magnesium (Mg)	max. 0,1 ppm			
colour (Hazen)	max. 10	manganese (Mn)	max. 0,02 ppm			
cyanides (CN)	max. 0,005 %	nickel (Ni)	max. 0,02 ppm			
aluminium (Al)	max. 0,5 ppm	tin (Sn)	max. 0,1 ppm			
barium (Ba)	max. 0,1 ppm	zinc (Zn)	max. 0,1 ppm			
boron (B)	max. 0,02 ppm	reaction to H <sub>2</sub> SO <sub>4</sub>	passes test			
cadmium (Cd)	max. 0,05 ppm	residue on evaporation	max. 0,0005 %			
calcium (Ca)	max. 0,5 ppm	water (K.F.)	max. 0,001 %			

**3** AC0329 Acetonitrile, gradient 240nm/ far UV HPLC grade **20**

assay (G.C.)	min. 99,9 %	min. transmission/max. absorbance in a 1,0 cm cell at wavelength:		ART. NO.	VOLUME	CONTAINER
identity (IR-spectrum)	passes test	200 nm:	T(%) A (AU)	AC03291000	1 l	
density (20°/4°)	0,779 - 0,783	250 nm:				
acidity	max. 0,0002 meq/g	300 nm:				

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li><b>1</b> Product name</li> <li><b>2</b> Catalogue number</li> <li><b>3</b> Grade /Quality</li> <li><b>4</b> Order number</li> <li><b>5</b> Volume</li> <li><b>6</b> Container</li> <li><b>7</b> Structural formula</li> <li><b>8</b> Synonyms and abbreviations</li> <li><b>9</b> Empirical formula</li> <li><b>10</b> Molar mass</li> <li><b>11</b> CAS number</li> </ul> | <ul style="list-style-type: none"> <li><b>12</b> EINECS number</li> <li><b>13</b> Physical and chemical data</li> <li><b>14</b> Toxicological data</li> <li><b>15</b> EC index number</li> <li><b>16</b> Transportation data</li> <li><b>17</b> Hazardous properties: Signal Word on H&amp;P statements</li> <li><b>18</b> Tariff number</li> <li><b>19</b> Product applications</li> <li><b>20</b> Hazard pictograms</li> <li><b>21</b> Product specifications</li> </ul> |
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# PRODUCT GRADE SELECTION GUIDE

In response to the various applications and requirements that laboratory chemicals need to fulfil, we offer our customers a wide variety of grades for both, general and specific solvents and reagents.

To help you in choosing of the most appropriate product for your application, we have created a table of grades covering Scharlab solvents and reagents.

## Scharlab Solvents:

### General Grades

<b>EssentQ®</b>	
<b>ExpertQ®</b>	ACS, Reag. Ph Eur, ISO
<b>Pharmpur®</b> : Pharmacopoeia Monography Products	Ph Eur, USP, BP, NF

## Scharlab Reagents:

<b>EssentQ®</b>	
<b>ExpertQ®</b>	ACS, Reag. Ph Eur, ISO
<b>Pharmpur®</b> : Pharmacopoeia Monography Products	Ph Eur, USP, BP, NF

### Specific Grades

HPLC	Supragradient
	Gradient
	Isocratic/ <b>MultiSolvent®</b> ACS
UHPLC-SM	
LC-MS	
GC	GC Headspace Analysis
	GC-MS
	GC Ultra-Trace Analysis
	GC Residue Analysis
Dry	
Anhydrous	With molecular sieves
	Without molecular sieves
<b>Spectrosol®</b> Deuterated (NMR)	
Organic Synthesis	Peptides synthesis
	DNA synthesis
Molecular Biology	
Histology	
VLSI	
ASTM	

<b>Ultratrace®</b> Ultrapure Acids	ppt grade	
	ppb grade	
Volumetric Solutions	Ready to use NIST	
	Concentrated	
Acids with low Mercury Content ACS, ISO		
Standards	ICP ISO 17025, NIST	
	AAS ISO 17025, NIST	
	GC	
	pH Buffer Solutions / <b>Monobuf®</b> NIST	
	Ion Chromatography ISO 17025, NIST	
	Conductivity NIST	
	<b>Titrasure®</b> Secondary Standards ACS, NIST	
	Molecular Biology	
	HPLC	
	LC-MS	
<b>Aquagent®</b> Karl Fischer Water Titration		
<b>Deterlabo®</b> Laboratory glassware, utensils and surface cleaning		
<b>Chemispill®</b> Laboratory absorbents		
Histology		

**EssentQ®, ExpertQ®, Pharmpur®, Multisolvent®, Ultratrace®, Monobuf®, Spectrosol®, Chemispill®, Deterlabo®, Titrasure®** and **Aquagent®** are registered trademarks.



# PRODUCT GRADE SELECTION GUIDE

## EssentQ®

A grade of chemicals for laboratory use which includes solvents and reagents used in organic synthesis as a dissolution media for laboratory tasks and for routine research, where the higher analytical grade is not required.

## ExpertQ®

This is the most frequently used grade for laboratory analytical work and corresponds to a grade of high-quality chemicals for laboratory and specialised industrial use. The range of ExpertQ® products includes solvents, salts, acids and bases, solutions and mixtures.

Analytical methods used for these determinations are based on standard test procedures as described in technical publications.

## Pharmpur®

Chemicals that comply with Pharmacopeial Monographies. All Pharmpur® products comply with Ph Eur, USP (or other pharmacopeia) indicating that their specifications meet European or American Pharmacopoeia.

## HPLC

This grade includes solvents, ion pair reagents and reagents of appropriate purity to be used as mobile phases in HPLC in analytical and preparative separations.

Solvents are available in different HPLC grades depending on the detector used and for isocratic or gradient elution. Different solvents undergo a number of chemical pre-treatments, fractionated distillation and other physical post-treatments, which eliminate impurities that could interfere in the HPLC analysis. Our solvents are microfiltered and packed in amber-coloured bottles, which are sealed with a PTFE membrane on the cap to avoid possible contamination.

## LC-MS

This grade includes solvents, mixtures and reagents suitable for use as eluents in LC-MS. LC-MS is a powerful technique combining separation by HPLC with the structural information obtained by MS. Its application is widespread in the scientific and pharmaceutical fields as well as in biotechnology and pesticide residue analysis. LC-MS solvents must be free from impurities that could give rise to ions that add to the background noise and cause interference in the spectrum. Therefore LC-MS solvents are microfiltered through a 0,21 µm filter.

## UHPLC-MS

Includes solvents suitable for use as eluents in Ultra High Performance Liquid Chromatography. Small particles, potentially present within the mobile phase, affect the HPLC equipment accessories (columns, filters, pumps), and become critical in UHPLC equipment. As well as our LC-MS products, the UHPLC solvents are microfiltered through 0,1µm.

## Multisolvent®

Multisolvent® comprises a group of versatile solvents which can be used in HPLC, Karl-Fischer titration, UV/VIS spectroscopy, column chromatography, anhydrous solvent production and in general analyses that require reagent grade products. The most frequent use of our Multisolvent® is for HPLC. In recent years, Multisolvent® users have found numerous applications, making it one of the most universal grades. Such applications include:

- General Analytical Purpose. Our Multisolvent® is guaranteed to be reagent grade. Scharlau uses GC-FID detection as a regular method to quantify the actual content of each batch.
- HPLC. The most used detector in HPLC is the UV-VIS. We control our Multisolvent® by means of UV spectroscopy to ensure that these products are suitable for isocratic HPLC. Moreover, Multisolvent® is microfiltered to avoid the presence of particles that might damage HPLC system pumps.

- UV. Our Multisolvent® is also suitable for tests by UV-VIS spectroscopy.
- Karl Fischer. Although it cannot be considered an anhydrous product, Multisolvent® has a low water content, making it perfectly suitable and competitive for Karl Fischer determinations.
- Column chromatography. This separation technique is normally used to purify synthesis products in organic chemistry.
- Anhydrous solvent production. The low water content of Multisolvent® makes it an ideal starting solvent for the production of anhydrous solvents using new technology, based on pressurised absorption columns.

## ■ GC residue Analysis

This grade includes solvents used in the preparation of vegetal specimens in the analysis of pesticides where solvent extraction is required. The sample is evaporated to dryness, the residue is then re-dissolved in a small volume of GC residue analysis solvent and analysed using gas chromatography. When evaporated to dryness, both the residue sample and any other impurities contained in the solvent itself are concentrated. Therefore, this type of analysis requires extraordinarily pure solvents.

Scharlab specifications for GC residue analysis solvents are very strict. We carry out controls by GC-ECD to ensure that the quality of our GC residue analysis solvents is suitable for organochlorinated, dioxin, furan and PCB pesticide residue analysis. In pesticide residue analysis, anhydrous sodium sulphate is normally used as a drying agent in order to separate the aqueous and organic phases once the extraction process is performed.

## ■ GC Ultra-Trace residue Analysis

This grade includes extremely purified solvents developed for organic residue extraction/concentration procedures in environmental samples. Apart from the grade of residue analysis specifications, Scharlab GC ultra-trace residue analysis solvents undergo two additional controls:

- GC-ECD, which guarantees the absence of electro-negative compounds.
- GC-FID, which guarantees the absence of general hydrocarbons.

Special liners in our caps ensure this ultra-sensitive product is not re-contaminated.

## ■ GC-MS

GC chromatography coupled to an MS detector is a technique that allows the detection and quantification of compounds at a trace level, even in complex matrixes. It is widely used for the analysis of PolyAromatic Hydrocarbons (PAHs), chlorinated pesticides, Volatile Organic Compounds (VOCs) and organic compounds, among others.

Due to its high sensitivity, the detector and the final outcome is drastically affected by particles in the solvent, metallic impurities, column bleedings, etc.

In this regard, Scharlab offers our GC-MS solvents, all of them microfiltered through 0,1 µm filters and bottled under a specific passivation process, to avoid the migration of metallic impurities from the glass to the solvent itself.

All Scharlab's GC-MS solvents are highly purified, with an excellent lot-to-lot consistency, and tested by our own GC-MS instrument.

## ■ GC Headspace Analysis

GC Headspace is widely used in the pharmaceutical industry for the analysis of volatile solvents in APIs and drugs. This grade includes high purity solvents used in sample preparation, which have to be free from volatile compounds that could interfere with the analysis. Solvents are all tested by GC Headspace to ensure that they comply with the quality required for this technique.

# PRODUCT GRADE SELECTION GUIDE

## ■ Dry solvents

Solvents with low water content used in both organic and inorganic synthesis. A typical application is for Karl Fischer titrations.

## ■ Anhydrous solvents

These are high-purity solvents with extremely low water content (ppm). Anhydrous solvents are essential in both organic, organometallic and oligonucleotide synthesis and inorganic chemistry, where many reactions must take place in moisture-free conditions. Anhydrous solvents are also frequently used in combinatorial chemistry and in biotechnology. Water content ranges from typically 10 to 30 ppm. Scharlab guarantees the quality of the anhydrous solvents by means of strict Karl Fischer controls. Scharlab offers two types of anhydrous solvents:

### **Anhydrous over molecular sieves**

These are quality-controlled solvents with minimal water content (ppm) that are kept anhydrous through molecular sieves being added to each bottle. The sieves trap the water traces that enter with air on opening and closing the bottle for use, therefore making it unnecessary to use a container with a septum cap. As this grade is packed in our standard bottles, it is an excellent option when economically priced anhydrous solvents are required.

### **Anhydrous without molecular sieves**

These solvents are packaged in a special way to avoid moisture contamination:

- Cap with septum enabling the extraction of the anhydrous product by means of a syringe. Due to the septum, removal of the cap during product extraction is not required.
- A vacuum transparent bag protects the content from air moisture during storage and transportation.

## ■ Spectrosol® Deuterated solvents

This grade includes solvents used in Nuclear Magnetic Resonance spectroscopy (NMR). Nuclear Magnetic Resonance spectroscopy is the most commonly used technique in the structural analysis of compounds obtained by organic synthesis. It normally requires the sample to be dissolved in a solvent whose hydrogen atoms have been replaced with deuterium atoms. Scharlab offers deuterated solvents of different isotopic purities.

## ■ Organic Synthesis solvents

This grade includes two categories:

### **For Peptides synthesis**

Solvents used for the efficient solvation of the peptide resin in solid phase peptide synthesis.

### **For DNA synthesis**

Acetonitrile is used in DNA synthesis as a reagent and rinse solvent after each step of the synthesis process. The absence of moisture improves the synthesis yield, which is why anhydrous acetonitrile should be used.

## ■ Molecular Biology

The experiments performed in a molecular biology laboratory are complex and involve the use of samples whose scarcity or difficult collection makes them very valuable. In such cases, the analyst needs reagents to be guaranteed against the presence of any impurities that might alter the structure of the genetic material contained in the sample. Scharlab offers a complete range of reagents for molecular biology with a special quality control that guarantees:

- Absence of nucleases and proteases
- Low UV absorbance
- Very high purity

## ■ Histology

Reagents and solvents specifically designed for medical laboratory use and diagnostics. The Scharlab portfolio offers:

- Fixatives
- Dehydration media
- Clearing agents
- Embedding Media
- Mounting Media
- Stains - solid and in solution

## ■ VLSI

VLSI stands for Very Large-Scale Integration. This grade includes solvents used in the semiconductor and in electronic industry production, mainly in the cleaning of integrated circuits. In VLSI grade solvents, we guarantee the absence of water, metals and particles.

## ■ ASTM

In this category we include a group of reagents, solutions and mixtures used in the analysis of lubricants and petroleum derivatives, which are manufactured by us according to ASTM published methods. Some of these reagents are used as standard hydrocarbons. Others can be used as titration media.

## ■ Ultratrace® Ultrapure acids

This grade includes extremely pure acids and reagents for inorganic trace analysis. It is crucial for the ultrapure acid to be free of metal traces. They are needed for the digestion of solid samples prior to analysis using atomic spectroscopy methods such as ICP or AAS. These techniques have very low detection limits: ppb or ppt.

- "Ultratrace®" ppb Grade. All certified at maximum impurity levels of parts per billion (1 ppb)
- "Ultratrace®" ppt Grade. All certified at maximum impurity levels of parts per trillion (20 ppt)

## ■ Volumetric solutions

### Ready-to-use volumetric solutions

Scharlab offers a wide range of volumetric solutions of accurate and reliable concentration for titration. Since these solutions are used as reference solutions in quantitative analysis, their concentration must be exact within the narrowest possible confidence interval. The Certificate of Analysis guarantees their quality and details the factor, the associated level of uncertainty and the method used. Scharlab volumetric solutions are traceable to the SRM of NIST.

For large consumers of standard solutions, we recommend our Kubitainer package, a combined polyethylene and cardboard pack with 10 l capacity. The liquid passes through a tap and on emptying, the flexible PE inner container folds remaining airtight. This packaging is very suitable for solutions whose concentration may vary on exposure to air, such as sodium hydroxide solutions.

### Concentrated volumetric solutions

Although these solutions are not ready-to-use solutions, part of the preparation work in the laboratory is eliminated. Each ampoule contains the precise quantity of concentrated solution to prepare on dilution 1 l of ready-to-use standard solution. Different concentrations may be obtained by diluting the concentrate to a volume other than 1 l.

## ■ Acids with low Mercury Content

Mercury is a highly toxic contaminant that enters the human food chain through river and sea water. Mercury analysis of fish can be performed by Atomic Absorption Spectroscopy. Before analysing liquid or solid samples by means of CVAAS (Cold Vapour Atomic Absorption Spectroscopy), the samples are digested in mineral acids, which must be mercury-free. Scharlab's low mercury content acids guarantee a maximum level of 5 ppb of Hg, which is the optimum for Hg determination.



# PRODUCT GRADE SELECTION GUIDE

## Standards

This grade includes reference materials used as standards for the calibration of different equipment and techniques.

### ICP standards

Used as external standards for the calibration of ICP equipment. Due to its higher sensitivity the ICP technique requires extremely high purity standards. Our ICP standard solutions are prepared from starting materials having a minimum purity of 99,9%, dissolved in ultrapure acids. The Certificate of Analysis is always supplied with the product.

### AAS standards

Used as external standards to calibrate AA spectrometers, these must have a very accurate concentration. Our AAS standards are prepared from high purity salts and dissolved in suitable acids. Our AAS standards are directly traceable to the SRM of NIST and produced in an accredited ISO 17025 and ISO 17034 laboratory. The Certificate of Analysis is always supplied with the product.

### GC standards

Reference GC standards are widely used in GC chromatography to obtain proper identification and quantification of the analysed compounds. Our GC standards are bottled in amber glass under nitrogen atmosphere, equipped with a screw top for better conservation. All with purities above 99,5%. The Certificate of Analysis is always supplied with the product.

### pH buffer solutions/Monobuf®

This grade includes buffer solutions used to calibrate pH meters. Scharlau pH standard solutions are accurate, reliable and directly traceable to the SRM of NIST. We also offer coloured buffer solutions, which make identification easier and avoid laboratory errors due to the incorrect pH buffer being used. The Certificate of Analysis is always supplied with the product.

Monobuf® comprises ready-to-use single dose pH buffer solutions. Each single pack contains the quantity of solution necessary to carry out a measurement in the same pack, avoiding material transfer and providing cleaner and more convenient handling.

### IC standards

Ion Chromatography standards are used for the calibration of IC chromatographs. All Scharlau Ion Chromatography standards are traceable to the SRM of NIST and produced in an accredited ISO 17025 and ISO 17034 laboratory. The Certificate of Analysis is always supplied with the product.

### Conductivity standards

These are solutions of known conductivity used for determining the cell constant. The quality of the standards is very important in order to obtain accurate measurements.

Because temperature affects dissolved ion mobility and therefore conductivity values, the temperature at which they were measured must always be indicated. Scharlab offers standards measured at 25 °C and traceable to the SRM of NIST. The Certificate of Analysis is always supplied with the product.

### Titrasure® Secondary standards

Secondary reference standards for titration. The factor of volumetric solutions may vary over time, making periodic verification advisable, particularly in the case where extremely diluted solutions or unstable solutions are used. Titrasure® is our family of reference standards having outstanding purity and homogeneity, suitable for verifying the factor of the volumetric solutions. Titrasure® secondary standards are packaged in glass flasks contained in an opaque carton to protect the product from harmful light, extending product shelf life. Titrasure® standards are traceable to the SRM of NIST. The Certificate of Analysis is always supplied with the product.

## ■ Aquagent® reagents and solvents for Karl Fischer titration

Aquagent® grade includes pyridine-free reagents, solution media and standards for the volumetric and coulometric determination of water via the Karl Fischer method. The Karl Fischer determination is the most widely used method in the quantitative analysis of water in all types of samples and industries. Aquagent® is suitable for volumetric titrations with one and two components as well as coulometric titration with and without cell diaphragm water titration.

## ■ Deterlabo®

Good laboratory techniques require accurate cleaning and maintenance of the working area, labware and utensils. They should be free from impurities or residual contaminants that may interfere during later application. A suitable cleaning process is mandatory to obtain reproducible and accurate results afterwards.

Deterlabo® is Scharlau's range of cleaners for surfaces and utensils. Different formulations are available depending on the type of waste to be removed and the type of cleaning (manual or machine washing).

## ■ Chemispill®

Sometimes in the daily work in the laboratory, unexpected spillages happen, with the associated risk or danger for those in the surrounding area.

With our Chemispill® range, products with high neutralisation and absorption capabilities, you will be able to clean up and safely dispose of any kind of laboratory spillage with maximum security and reliability.

The new Chemispill® line comprises 3 complementary products for cleaning up and/or neutralising unexpected spillages:

- Chemispill® Sorb, for organic solvent or neutral aqueous spillages
- Chemispill® H+, for laboratory acid spillages
- Chemispill® OH-, for laboratory alkali spillages

# PRODUCT DOCUMENTATION

Technical Data Sheets (TDS), Certificate of Analysis (CoA) and Safety Data Sheets (SDS) are available for each product. You can download all of them instantly and easily from our website: [www.scharlab.com](http://www.scharlab.com)

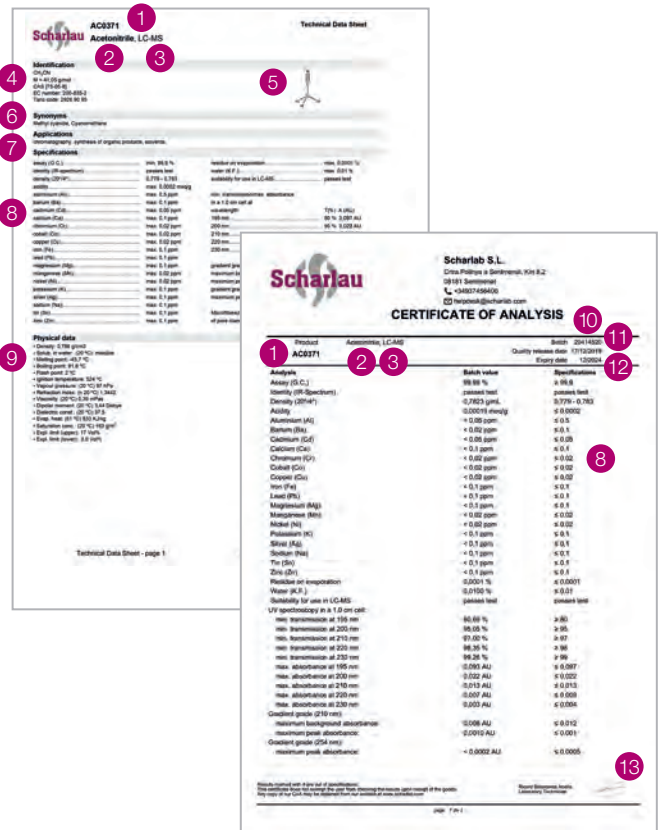
## Safety Data Sheet (SDS)



We provide complete Safety Data Sheets (SDS) in over 15 languages. They contain data regarding the physical and chemical properties of the product, necessary precautions for handling, toxicological information, aspects relating to the environment and waste disposal, storage and transport. The latest version of all our SDS can be downloaded from our website: [www.scharlab.com](http://www.scharlab.com)

- 1 Catalogue number
- 2 Product name
- 3 Grade / Quality
- 4 Identification:
  - Empirical formula
  - Molar mass
  - CAS number
  - EC number
  - Tariff number
- 5 Structural formula
- 6 Synonyms
- 7 Product applications
- 8 Product specifications:
  - Guaranteed value (TDS)
  - and real value (CoA)

## Technical Data Sheet (TDS) & Certificate of Analysis (CoA)



The Technical Data Sheet provides the guaranteed values of our product specifications, among others. On the other hand, the Certificate of Analysis provides the real values of these specifications, guaranteeing the quality of every manufactured product. On our website, you can easily download the TDS and the CoA of our entire product portfolio. Our TDS and CoA certificates are divided into the following parts:

- 9 Physical data, Safety, Toxicological data and Transport/Storage
- 10 Batch number
- 11 Quality release day
- 12 Expiry date
- 13 Signature of the QC laboratory



# Finding what you need has never been so easy

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# PRODUCT LABEL

## Understanding our label

CH.CN  
CAS: [75-05-8]  
CE: 608-001-00-3  
M=41,05  
D=0,786 g/cm<sup>3</sup>  
mp: -45,7 °C  
bp: 81,6 °C

See the TDS for specifications

Date received

Date opened

Operator

Validity date

ADR: 3 F1 II  
IMDG: 3 II  
IATA: 3 II

UN 1648

www.scharlab.com

AC03712500 2,5 l  
**Acetonitrile, LC-MS**

Acetonitrilo, Acetonitril, Acétonitrile, Acetonitrile, Acetonitrila

3268 BATCH 17678920 Expiry date 12/2021

25°C  
15°C

NO GHS SYMBOL NO GHS SYMBOL

Scharlab S.L.

**Danger:** Highly flammable liquid and vapour. Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes serious eye irritation. - Keep away from heat / sparks / open flames / hot surfaces. - No smoking. Use explosion-proof electrical / ventilating / lighting / equipment. Avoid breathing dust / fume / gas / mist / vapours / spray. IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Dispose of contents / container in accordance with local / regional / national / international regulations.

**Peligro:** Líquido y vapores muy inflamables. Nocivo en caso de ingestión. Nocivo en contacto con la piel. Nocivo en caso de inhalación. Provoca irritación ocular grave. - Mantener alejado de fuentes de calor, chispas, flama abierta o superficies calientes. - No fumar. Utilizar un material eléctrico, de ventilación o de iluminación / antiinflamable. Evitar respirar el polvo / el humo / el gas / la neblina / los vapores / el aerosol. EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente las prendas contaminadas. Aclararse la piel con agua o ducharse. EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando. Eliminar el contenido o el recipiente conforme a la legislación local / regional / nacional / internacional.

**Gefahr:** Flüssigkeit und Dampf leicht entzündbar. Gesundheitsschädlich bei Verschlucken. Gesundheitsschädlich bei Hautkontakt. Gesundheitsschädlich bei Einatmen. Verursacht schwere Augenreizung. - Von Hitze / Funken / offener Flamme / heißen Oberflächen fernhalten. Nicht rauchen. Explosionsgeschützte elektrische Betriebsmittel / Lüftungsanlagen / Beleuchtung verwenden. Einatmen von Staub / Rauch / Gas / Nebel / Dampf / Aerosol vermeiden. BEI KONTAKT MIT DER HAUT (oder dem Haar): Alle beschmutzten, getränkten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen / duschen. BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen. Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.

**Danger:** Liquide et vapeurs très inflammables. Nocif en cas d'ingestion. Nocif par contact cutané. Nocif par inhalation. Provoque une sévère irritation des yeux. - Tenir à l'écart de la chaleur / des étincelles / des flammes nues / des surfaces chaudes. - Ne pas fumer. Utiliser du matériel électrique / de ventilation / d'éclairage / anti-inflammable. Éviter de respirer les poussières / fumées / gaz / brouillards / vapeurs / aérosols. EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): enlever immédiatement les vêtements contaminés. Rincer la peau à l'eau ou se doucher. EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Eliminer le contenu / récipient conformément à la réglementation locale / régionale / nationale / internationale.

**Pericolo:** Liquido e vapori facilmente infiammabili. Nocivo per ingestione. Nocivo per contatto con la pelle. Nocivo se inalato. Provoca grave irritazione oculare. - Tenere lontano da fonti di calore / scintille / fiamme libere / superfici riscaldate. - Non fumare. Utilizzare impianti elettrici / di ventilazione / d'illuminazione / a prova di esplosione. Evitare di respirare la polvere / i fumi / i gas / la nebbia / i vapori / gli aerosol. IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliersi di dosso immediatamente tutti gli indumenti contaminati. Sciacquare la pelle / fare una doccia. IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare. Smaltire il prodotto / recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

**Perigo:** Líquido e vapor facilmente inflamáveis. Nocivo por ingestão. Nocivo em contacto com a pele. Nocivo por inalação. Provoca irritação ocular grave. - Manter afastado de calor, superfícies quentes, faíscas, chama aberta e outros fontes de ignição. - Não fumar. Utilizar equipamento eléctrico/ventilação/iluminação / à prova de explosão. Evitar respirar as poeiras/fumos/gases/nevoas/vapores/aerosóis. SE ENTRAR EM CONTACTO COM A PELE (ou o cabelo): retirar imediatamente toda a roupa contaminada. Enxaguar a pele com água/marinar um duche. SE ENTRAR EM CONTACTO COM OS OLHOS: enxaguar cuidadosamente com água durante vários minutos. Se usar lentes de contacto, retirá-las, se tal for possível. Continuar a enxaguar. Eliminar o conteúdo ou recipiente de acordo com a legislação local / regional / nacional / internacional.

- 1 Product name
- 2 Grade / Application
- 3 Order number
- 4 Volume
- 5 Product name in Spanish, German, French, Italian and Portuguese
- 6 Serial number
- 7 Batch number
- 8 Expiry date
- 9 Storage conditions
- 10 CAS number
- 11 EC Index number
- 12 Physical data
- 13 End-user's Quality Control Area
- 14 Transportation data
- 15 UN number
- 16 QR code
- 17 Hazard Pictograms
- 18 Signal words and H&P statements
- 19 Product use
- 20 Manufacturing country
- 21 Scharlab logo
- 22 Scharlab S.L. data
- 23 Website

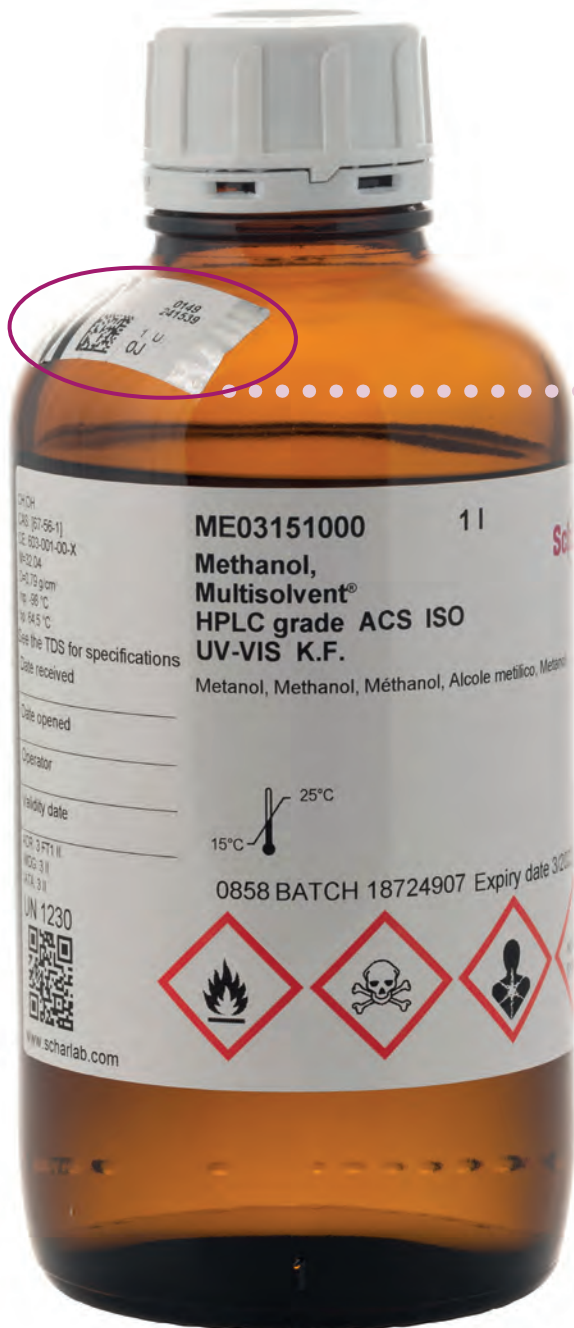


Scan the Scharlab chemical product's QR barcode and instantly download all the documentation associated with the scanned products to your smartphone using our ScharlabQR App.



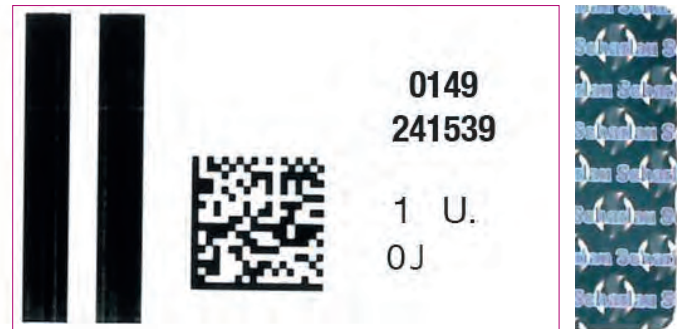


# PRODUCT HOLOGRAPHIC PROTECTION



For internal use

Hologram



## Holographic protection

Due to the continuous presence of imitations of Scharlab chemical in several countries, with negative consequences for our customers, we have launched an initiative that distinguishes genuine Scharlab products from imitations.

All Scharlab lots manufactured from October 2010 bear a barcode label with a unique Scharlab hologram.

- **The hologram is the best quality guarantee for you**
- **Reject any container that does not contain the Scharlab hologram**

Beware if you see that the expiry date of the original CoA is not the same as that which appears on the label.



# We have packaging for every need

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At Scharlab we are aware of the importance of accompanying our high-quality products with high-quality packaging to keep them in optimum conditions. Furthermore, we offer a wide range of packaging, not only with regard to capacities but also with regard to materials, to adapt to your needs as much as possible. Our entire packaging range is manufactured according to the strictest regulations, and aims to be as environmentally friendly as possible.

- **Wide range of materials** taking into account the chemical compatibility and features of our solvents and reagents
- **Wide range of sizes** convenience and peace of mind for all our customers worldwide
- **Returnable drums** convenience and benefit for the user, environmentally friendly
- **UN approval** homologated packaging according to the latest transport regulations
- **Safe packaging options** containers and caps designed to minimise particular risks to users and the environment
- **Ease of handling** in your daily work



# PACKAGING

## SAFETY & THE ENVIRONMENT

### Safety & the Environment

Packaging is essential for the shipment and distribution of our products, for that reason we are continuously searching for cleaner, safer ways of packing. Scharlab is an ISO 14000 certified company and the preservation of the environment is one of the company's concerns.

When safety permits, Scharlab uses mainly external cardboard packages with paper fills for easier waste management or reuse. These fills come from recycled and renewable sources and they can be reused several times. In addition, this fill protects against potential impacts during transportation and is insensitive to static electricity.

Scharlab is a pioneer in the introduction of the exclusive Returnable Drums Service (available only in Spain or some European countries), recognised by Spanish national laws as a system to reduce packaging and improve packaging waste management.

Additionally, Scharlab aims to help customers with regard to reducing packaging waste and transportation cost, therefore we constantly improve our boxes to increase safety and reduce the amount of cardboard used and the space they take up. Scharlab aims to use stackable packaging and consequently save space during transportation and storage. It reduces the carbon footprint due to transportation emissions and the use of natural resources from petroleum.







# PACKAGING OVERVIEW

## Packaging range for solids

100 g 250 g 500 g

1 kg 5 kg

25 kg

### HDPE bottles for solids

- Optimum features for handling, storage and transport
- Wide, safe base to minimise any tipping over of the bottle and maximising safety
- Outstanding quality high-density Polyethylene, with great resistance and durability, ensuring the highest safety and product quality
- High-quality neck. Tamper evident screw cap with liner, ensuring a tight fit with the bottle
- Label contains comprehensive information: specifications, hazards, batch number and expiry date



100 g

250 g

500 g

1 kg

### Wide mouth plastic containers for solids

- Optimum features for handling, storage and transportation
- Wide, safe base to minimise any tipping over of the container and maximising safety
- Outstanding quality high-density Polyethylene, with great resistance and durability, ensuring the highest safety and product quality
- High-quality neck. Tamper evident cap, ensuring a perfect fit with the container
- Label contains comprehensive information: specifications, hazards, batch number and expiry date
- For better product protection, it is packed in a sealed Polyethylene bag as primary packaging prior to packing it in the wide mouth plastic container



5 kg

25 kg

### Packaging range for liquids

100 ml	250 ml	500 ml		
1 l	2,5 l	4 l	5 l	7 l
10 l	20 l	25 l	30 l	60 l
100 l	185 l	200 l		

### HDPE jerrycans and drums for liquids

- Optimum features for handling, storage and transport
- Wide, safe base to minimise the jerrycans or drums tipping over and maximising safety
- Outstanding quality high-density Polyethylene, with great resistance and durability ensuring the highest safety and product quality
- High-quality thread. Tamper evident cap, ensuring a perfect fit with the jerrycan or drum
- Label contains comprehensive information: specifications and hazards, batch number and expiry date



### Kubitainer

- Less space than glass bottles (less than half) and less weight
- Time saving: less handling in the lab compared to smaller size packages
- Environmentally friendly: minimises packaging waste
- No air enters the Kubitainer during the use, preserving product quality
- Tap built in to facilitate handling



### Aluminium bottle

- Optimum features for handling, storage and transport
- Wide, safe base to minimise the bottle tipping over and maximising safety
- Ergonomic handle to facilitate the product pouring
- Suitable for high-purity solvent grades
- Shock resistant







**1 kg flask** This package has a more ergonomic design, allowing optimal handling, storage and transport. It is made from high-quality materials and broad chemical compatibility.

### High quality thread

PTFE threaded cap, ensuring a perfect closure with the flask and an inert contact with the content

### Wider opening

For simpler dispensing of the product

### More ergonomic

### Oval shape

For a more comfortable grip

### Very high-quality high-density polyethylene

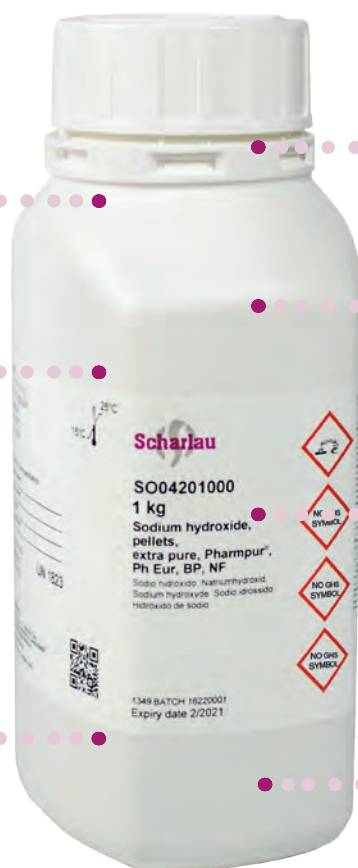
With great resistance and durability, ensuring the highest product quality and safety

### Label

With comprehensible information

### Wide, safe base

To prevent tipping



	1 Kg
Material	HDPE
Weight (g)	75
Height (mm)	207
Length & width (mm)	107 x 83
Road/Sea LCP Shipment	576 (CP5)
20'/40'/Road/Sea FCL	576 (CP5)
40' H.C. FCL	720 (CP5)

# PACKAGING OVERVIEW

**Glass bottles** available from 500 ml up to 4 l

### High-quality thread

Tamper evident screw cap with PTFE, ensuring a perfect fit with the bottle neck



### Same diameter

1 l glass bottle has the same diameter as 1 l UHDPE bottle, both will fit in the same equipment



### Outstanding quality amber glass

Great resistance and durability ensuring the highest product quality and safety



### Label contains comprehensive information

Specifications and hazards, batch number, expiry date



### Wide, safe base

Minimises the bottle tipping over and maximises safety



	500 ml	1 l	2,5 l	4 l
Material	Glass	Glass	Glass	Glass
Weight (g)	425	685	1.350	1.530
Height (mm)	178	224,5	285	319
Length & width (mm)	Ø83	Ø101	Ø139	Ø162,7
Road/Sea LCP Shipment	768 (CP5)	462 (CP5)	120 (CP5)	96 (CP5)
20'/40'/Road/Sea FCL	960 (CP5)	528 (CP5)	144 (CP5)	120 (CP5)
40' H.C. FCL	1.056 (CP5)	660 (CP5)	168 (CP5)	144 (CP5)

## UHDPE bottles available from 500 ml up to 4 l

### High-quality thread

Tamper evident screw cap with PTFE, ensuring a perfect fit with the bottle neck and inert contact with the content

### Volume marks

Allow the user to estimate the amount of liquid remaining in the bottle

### Outstanding quality Ultra High-Density Polyethylene

Great resistance and durability ensuring the highest product quality and safety.

### Ergonomic handle for full hand

Easier and safer product pouring (in 2,5 l bottles)

### Keeps its shape

Our bottles contain over 25% more Polyethylene than standard 2,5 l bottles to ensure they keep the shape even after being submitted to temperature changes

### Label contains comprehensive information

Specifications, hazards, batch number and expiry date

### Wide, safe base

Minimises the bottle tipping over and maximises safety



	500 ml	1 l	2.5 l	4 l
Material	UHDPE	UHDPE	UHDPE	UHDPE
Weight (g)	55	110	225	328
Height (mm)	180	213	300	343
Diameter (mm)	Ø77	Ø101	Ø218	Ø159
Road/Sea LCP Shipment	768 (CP5)	426 (CP5)	120 (CP5)	96 (CP5)
20'/40'/Road/Sea FCL	960 (CP5)	528 (CP5)	144 (CP5)	120 (CP5)
40' H.C. FCL	1.056 (CP5)	660 (CP5)	168 (CP5)	144 (CP5)

# PACKAGING

## SPECIAL PACKAGING

**Glass Safety bottles:** prevents spillage in the case of breakage when the bottle contains strong acids. Available for 1 l and 2,5 l

### Outstanding quality amber glass

Great resistance and durability ensuring the highest product safety and quality

### High-quality thread

Tamper evident screw cap 45 mm with PTFE, ensuring a perfect fit with the bottle and the direct coupling of dispensers or burettes

### Anti-dripping ring

Avoids any acid dripping, maximising safety



### Polyethylene outer layer

Prevents the bottle breaking in case of a fall. If the bottle falls, the glass may crack, but thanks to the outer layer no liquid spills

### Wide, safe base

Minimises the bottle tipping over and maximises safety

### Label contains comprehensive information

Specifications and hazards, batch number and expiry date



	1 l	2,5 l
Material	Glass with an outer layer of PE	Glass with an outer layer of PE
Weight (g)	685	1.350
Height (mm)	224,5	285
Diameter (mm)	Ø101	Ø139
Road/Sea LCP Shipment	240 (EUR)	120 (CP5)
20'/40'/Road/Sea FCL	336 (EUR)	144 (CP5)
40' H.C. FCL	384 (EUR)	168 (CP5)



## Glass bottle for anhydrous products available from 100 ml up to 1 l



- **Septum screw cap**
- Keeps the inside of the bottle dry

### Transparent vacuum packaging

Avoids any minimal contact of the product with the atmosphere

### Outstanding quality amber glass

Great resistance and durability ensuring the highest product safety and quality

### Label contains comprehensive information

Specifications and hazards, batch number and expiry date

**Double labelling:** on the outer packaging and on the bottle

### Wide, safe base

Minimises the bottle tipping over and maximises safety



	100 ml	500 ml	1 l
Material	Glass	Glass	Glass
Weight (g)	140	425	685
Height (mm)	88,5	178	224,5
Diameter (mm)	Ø49	Ø83	Ø101
Road/Sea LCP Shipment	1.254 (CP5)	240 (EUR)	240 (EUR)
20'/40'/Road/Sea FCL	1.596 (CP5)	336 (EUR)	336 (EUR)
40' H.C. FCL	1.824 (CP5)	384 (EUR)	384 (EUR)

# PACKAGING OVERVIEW: DRUMS

**Metal drum** available for 25 l and 200 l

**Tamper evident seal red cap**

**Outstanding quality metal**

Great resistance and durability ensuring the highest safety and product quality

**Two handles for a better handling (for 25 l only)**

**Label contains comprehensive information**  
Specifications and hazards, batch number and expiry date

**Printed Packaging UN number**

**Wide, safe base**  
Minimises the bottle tipping over and maximises safety



	25 l	200 l
Material	Cold-rolled steel sheet	Steel
Weight (kg)	3	16,5
Height (mm)	485	884
Diameter (mm)	Ø304	Ø585
Total Volume (l)	30	216,5
UN number	1A1/X1.8/250	1A1/X1.8/250
Road/Sea LCP Shipment	21 (CP5)	1 (CP5)
20'/40'/Road/Sea FCL	21 (CP5)	2 (CP5)
40' H.C. FCL	21 (CP5)	2 (CP5)



## Stainless steel drum available for 25 l



**Tamper evident seal red cap**

**Printed Packaging UN number**

**Two handles for a better handling**

**Label contains comprehensive information**

Specifications and hazards, batch number and expiry date

**Outstanding quality stainless steel**

Great resistance and durability ensuring the highest safety and product quality

**Wide, safe base**

Minimises the drum tipping over and maximises safety

	25 l
Material	Stainless Steel
Weight (kg)	3,7
Height (mm)	520
Diameter (mm)	Ø290
Total Volume (l)	30,2
UN number	1A1X500/10/CH3085
Road/Sea LCP Shipment	21 (CP5)
20'/40'/Road/Sea FCL	21 (CP5)
40' H.C. FCL	21 (CP5)

# PACKAGING

## OVERVIEW: DRUMS

**Stainless steel returnable drums**  
available from 7 l up to 185 l



	7 l	20 l	25 l	30 l	100 l	185/200 l
Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Weight (kg)	1,8	7	6,4	10	30	43
Height (mm)	320	470	530	435	880	960
Diameter (mm)	Ø197	Ø278	Ø300 (with ring)	Ø363	Ø450	Ø600
Total Volume (l)	7,8	22	28	33	110	220
UN number	A1W/X2.0/900	A1W/X2.0/900	A1/X1.6/400	A1W/X2.0/900	A1W/X2.0/900	A1W/X2.0/900
Road/Sea LCP Shipment	60 (CP5)	33 (CP5)	21 (CP5)	18 (CP5)	3 (CP5)	2 (CP5)
20'/40'/Road/Sea FCL	60 (CP5)	33 (CP5)	21 (CP5)	18 (CP5)	3 (CP5)	2 (CP5)
40' H.C. FCL	60 (CP5)	33 (CP5)	21 (CP5)	18 (CP5)	3 (CP5)	2 (CP5)





## 25 l stainless steel returnable drum



# PACKAGING

## OVERVIEW: DISPENSING SYSTEMS

### Dispensing system using positive pressure with inert gas for pressurised steel drums



SYSTEM	
Order Number	649-000019

ACCESSORIES	
Deep pipe for 30 l drums	649-000020
Deep pipe for 185 l and 200 l drums	649-000021
Male-female connectors	649-000022

**Dispensing system using positive pressure with inert gas for 30 l steel pressurised drums**



SYSTEM	
Order Number	649-000002

**Dispensing system using manual positive pressure for 30 l steel pressurised drums**



SYSTEM	
Order Number	028-0EU30S

# PACKAGING ACCESSORIES

At Scharlab we take your daily laboratory activities, as well as your work in production facilities, into consideration. As such, we have developed a range of accessories to facilitate the handling and storage of our products so that you can use them with maximum convenience, efficiency and safety.

		ART. NO.	DESCRIPTION
DISPENSING SYSTEMS	Pressurised DRUMS  20, 30, 60, 185 & 200 l	028-0EU30S	Dispensing system using manual positive pressure for 30 l pressurised steel drums
		028-000002	Dispensing system using positive pressure with inert gas for 30 l steel pressurised drums
		649-000019	Dispensing system using positive pressure with inert gas for pressurised steel drums. Deep pipes and connectors not included.
		649-000020	Deep pipe for 30 l drums
		649-000021	Deep pipe for 185 l and 200 l drums
		649-000022	Male-female connectors
	7 l DRUMS	028-0EK07S	Dispensing system using manual positive pressure for 7 l steel drums
	25 l DRUMS	033-065.05	Dispenser, 10-50 ml
		113-GR7040	1 ½" self-closing tap for 25 l safety drums
		113-TAP25S	Air valve for 25 l safety drum
		113-GR7041	1 ½" screw cap for 25 l safety drums
OTHER ACCESSORIES		202-250001	Metallic tap for Combi 25 l drum
		232-SOPBID	Support for 25 l drums. Suitable for any 25 l metallic drums
		232-SOPSOB	Bench cap support for 25 l metallic drums
		0559GR005P	Tap for 5 l carboy
		0559GR025P	Tap for 25 l carboys
		0559GR025L	Plastic tap for 25 l metal drum
		055-GR025B	Tap for steel drum 2" opening
		055-LLAVEB	Drum opening wrench
		055-LLAVEF	Bottle opening wrench
		055-LLAVG2	Carboy opening wrench
		055-LLAVEM	Opening wrench for 185 l and 200 l steel drums
		033-AD5L+T	Adaptor kit to connect dispensers (25, 50 or 100 ml) to 5 l carboys





# You envision, we develop

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The challenges facing professionals in laboratories and industry research centres vary. To address these needs, in addition to our comprehensive catalogue, we offer a wide range of solutions developed by our R&D department and certified by our laboratory.

## Product

### Customised solvents purification

If none of our available solvents meets your specifications, we can customise our solvent purification according to your needs.

We have reactors with capacities from 300 to 1200 l with the possibility of vacuum distillation as well as columns of different diameters and efficiencies.

We also perform chemical treatments to remove impurities as well as microfiltration to 0,2 or 0,1  $\mu\text{m}$ .

### Solvents mixtures

We offer prepared solvents mixtures so that you can avoid the risk of handling flammable substances.

Our facilities are equipped to handle all kinds of solvents and solvent mixtures with minimal risk.

### Aqueous or organic solutions

- Volumetric solutions
- Buffers
- Mobile phases for chromatography

The customised manufacture of standard solutions, buffers and mobile phases for chromatography is of major importance in terms of time saving in the laboratory. The preparation of these solutions is laborious and requires further analysis by using a method validated in the laboratory. Let us help you:

- Save time in the preparation of reagents and the development of analytical methods for their validation
- Guaranteed results by using the CoA that we provide as manufacturer
- Classification of the mixture according to the CLP regulation is avoided
- Eliminate the need to print product identification labels
- Save time and money on primary standards

### Reagents for analysers

Some equipment including Kjeldahl or TOC analysers need to incorporate different reagents or wash solutions which may be manufactured by Scharlab.

All our custom-made products are certified by our laboratory and supplied with all necessary technical information: Technical Data Sheet (TDS), Safety Data Sheet (SDS) and Certificate of Analysis (CoA).



## Features

### Flexible packaging

The versatility of our manufacturing facility located in Sentmenat (Barcelona) allows us to work with all kinds of chemicals and packaging formats from 1 ml to 1000 l.

- We offer a wide range of product packaging: bottles, cans, Kubitainers, drums and IBC
- Made from a variety of materials: glass, polyethylene, steel, always taking the chemical product compatibility into account
- “Ready-to-use” quantities: for customers who need a repetitive amount of the same product

The packaging is flexible both in single-use packaging as well as in drums and returnable cans.

### Tailor-made analysis and specifications

Our laboratory is equipped with advanced analytical instrumentation for HPLC, GC, GC-MS, GC-MS, ICP, potentiometric titration, Karl Fisher titration, IR, fluorimetry, UV-VIS spectrophotometry analysis, enabling the certification of the specifications requested by the part customer to be included in the relevant CoA.

We study the feasibility of all applications according to their specifications.

Download the custom-made application form from: [www.scharlab.com](http://www.scharlab.com)



## SERVICES

### RETURNABLE DRUM SERVICE: R.D.S.

We are pioneers in the introduction of the exclusive Returnable Drums Service, the simplest system for the solvents management. We are unique in providing drums for exclusive use by an individual customer, thereby supporting the achievement of their goals as chemical analysis professionals through:

- Minimizing waste
- Economical costs
- Providing a safe, secure chemical storage environment
- Preserving product integrity
- Providing environmentally friendly surroundings

#### Responding to our clients' needs

When we introduced R.D.S., nobody had identified a need to develop new ways of managing solvents for chemical analysis that would benefit customers and the environment.

First introduced in 1994 in Spain, and later within other EU countries, the R.D.S. service is increasingly in demand by professionals who rely on our products and services. Currently, more than 500 customers and professionals from the widest range of industries benefit from Scharlab's R.D.S. This service enables us to gain a greater understanding of customer requirements and in so doing, further strengthens the trust that customers and professionals have in us.



Since 2018, our drums have a registration number, a unique and exclusive feature in the market.

The registration scan, as a prior step to the part number scan, allows a logistic improvement and better control of our returnable drums, which means a more flexible, efficient and maximum guarantee for customer service.



# The simplest way to manage your solvents

## Benefits

### Exclusive Drums for each customer

- Better quality assurance for the users
- Better packaging to preserve product integrity
- Risk of product contamination minimised

### Environmentally friendly

- Wastage of empty glass containers is avoided
- No additional packaging (i.e. boxes and other materials) is required
- Waste due to packaging materials is minimised
- Contributes to the compliance with ISO 14001
- Reusable drums
- R.D.S. System is recognised as Deposit and Return System (DRS), in accordance with Law 11/1997, RD 782/1998 and the Order of April 27, 1998

### Economic benefits

- Minimises the cost of waste management and recycling
- Space saving: up to 50% less space compared to equivalent volumes packaged in glass bottles
- Less storage costs
- Minimal waste

### Maximum safety for the user

- Reduced fire hazard
- Robust containers resistant to impacts
- Prevents spills
- Safety drums available for flammable products

### Enhanced Product Quality

- Newly packaged product in each shipment
- GL45 neck that allows direct connection to HPLC equipment
- Closed system from the point of production to the place of use
- Contamination from air or moisture is avoided
- Drums designed to contain high purity solvents

### Flexibility

- Adaptable to customers' changing consumption needs
- Variety of containers and sizes to suit every need

### Efficient logistics

- Pressurised containers that enable the supply of solvent to the point of use, eliminating the transfer of containers in the laboratory

# SERVICES

## RETURNABLE DRUM SERVICE: R.D.S.

### R.D.S. Cycle

Every laboratory aims to minimise waste production. With the R.D.S. cycle, the economic cost of management is reduced, and it helps to preserve the environment.

#### R.D.S.: How does the cycle work?

Our Returnable Drums Service, R.D.S., is characterised by offering our solvents in drums that are customised for each product and customer, by means of a delivery and collection service that adapts to the users' consumption needs.

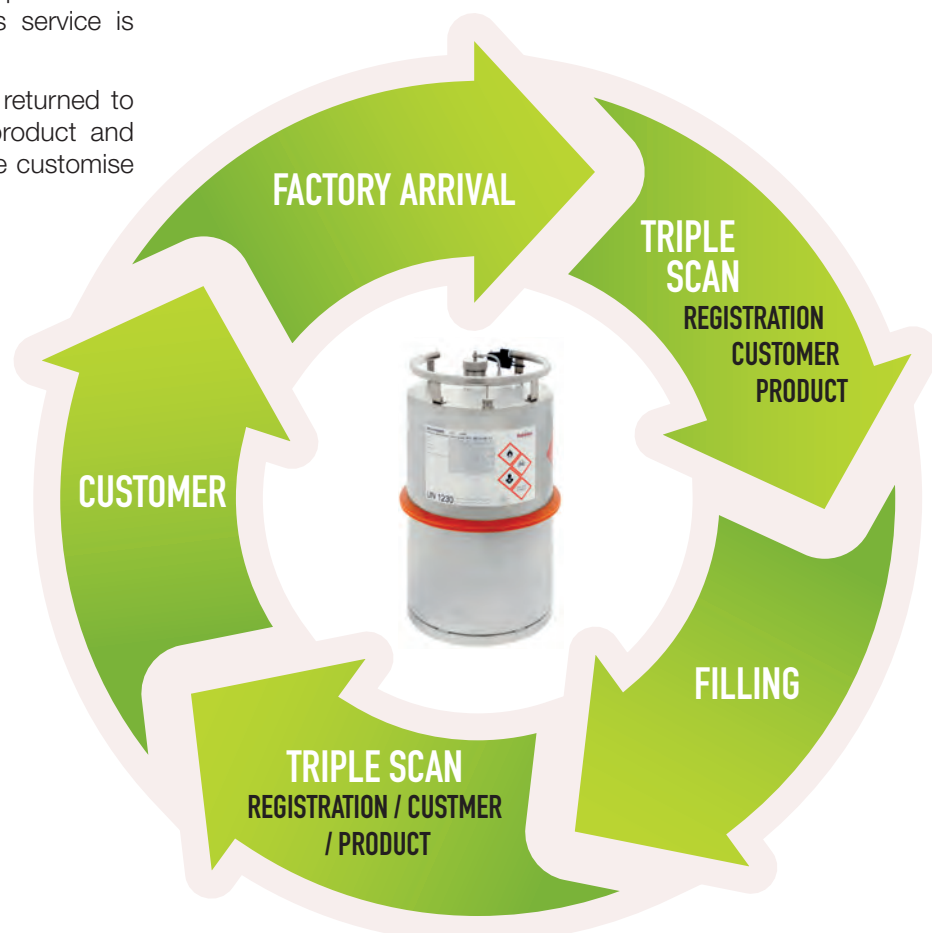
- Scharlab reviews the number of containers needed by each client based on their product consumption
- In the first shipment, the customer receives all the agreed drums
- As the drums are used we collect and transport the empty drums to our facilities within the Spanish and Italian territories. In other countries this service is organised by the dealer
- Here the drums are set up, refilled and returned to the customer: always with the same product and always to the same client. To do this, we customise packaging with a code for each client

#### Flexible, customised design

The number of containers can be adapted to the consumption needs and diversity of solvents required. Thus, we provide a tailor-made service.

- This number is established on the basis of a contract between the client and Scharlab
- Through a system of regular monitoring, we identify the requirements to expand and / or modify the contract, thus adapting to the customers' actual requirements

The registration allows us to know the number of cycles for each drum and the cycle speed to anticipate the need changes of each customer.





## Packaging

Our R.D.S. offers packaging for different materials and sizes, to suit user requirements, as well as accessories to facilitate the handling and storage of drums and to make the process simpler, more convenient and safer.

The R.D.S. returnable drums are available in **7 l, 25 l, 30 l, 100 l, 185 l, 200 l and 1000 l** sizes.

### 7 litre stainless steel drum

- The neck (GL45) is like that of a glass bottle enabling the same dosing systems or analytical instrument plugs (HPLC, titrators, etc.) to be used
- User-friendly, thanks to its metal handle
- Occupies much less space than three 2,5 l bottles, and unlike glass, does not break
- Suitable for storage of all liquids compatible with steel, including high purity liquids



7 l

### 25 litre stainless steel safety drum

- Safety features. In addition to its impact resistance, the safety drum has additional safety features: Davy Sieve, valve for air inlet and safety valve that prevents explosion
- In case of fire, the flames do not penetrate the drum, thus preventing explosions
- It is particularly suitable for storing flammable liquids such as hexane, acetone and ether
- Once on site, the cap is replaced by a steel self-closing tap to enable emptying in a horizontal position. A thick metal ring on the upper part of the drum enables easy handling and stacking



25 l

## SERVICES

### RETURNABLE DRUM SERVICE: R.D.S.



#### 30, 100, 185 and 200 litre stainless steel drum

- For large solvent consumption. The absence of polymer joints between the different drum parts ensures that the product is preserved to the highest quality
- Used for the storage of all solvents with the exception of some chlorinated solvents, due to their chemical incompatibility with steel
- The drums can be pressurised making them suitable in applications where solvents are dispensed over long distances
- The liquid can be removed by positive pressure via an inert gas through a steel dispensing system



30 l

When greater than 5000 l per year of product is consumed, a 1000 l pressurised container can be offered.

R.D.S. currently available in European Community

#### R.D.S. Accessories

		ART. NO.	DESCRIPTION
DISPENSING SYSTEMS	Pressurised DRUMS  20, 30, 60, 185 & 200 l	028-0EU30S	Dispensing system using manual positive pressure for 30 l pressurised steel drums
		028-000002	Dispensing system using positive pressure with inert gas for 30 l steel pressurised drums
		649-000019	Dispensing system using positive pressure with inert gas for pressurised steel drums. Deep pipes and connectors not included.
		649-000020	Deep pipe for 30 l drums
		649-000021	Deep pipe for 185 l and 200 l drums
		649-000022	Male-female connectors
	7 l DRUMS	028-0EK07S	Dispensing system by manual positive pressure for 7 l steel drums
		033-065.05	Dispenser, 10-50 ml
	25 l DRUMS	113-GR7040	1 ½" self-closing tap for 25 l safety drums
		113-TAP25S	Air valve for 25 l safety drum
113-GR7041		1 ½" screw cap for 25 l safety drums	





# Scharlab

THE LAB SOURCING GROUP



# SAFETY

## CLP COMPLIANCE

### Classification, labelling and packaging of substances and mixtures (CLP)

The European Union adopted the GHS (Globally Harmonised System of Classification and Labelling of Chemicals) by means of a new regulation (EC) no. 1272/2008, also known as CLP, which came into force on 20<sup>th</sup> January 2009 in all the member states.

The goal is to unify the different criteria for classification of dangerous substances that coexist in the world.

The CLP is replacing the old system of classification and labelling defined by the directives 67/548/EEC (DSD) and 1999/45/EC (DPD) for substances and mixtures respectively. These directives will become invalid as of June 2015.

Important dates in the implementation of the CLP:

- 1<sup>st</sup> December 2010: From this date it is obligatory to classify and to label all substances according to the CLP
- 1<sup>st</sup> December 2012: All the warehoused substances must be labelled according to CLP
- 1<sup>st</sup> June 2015: From this date, it is obligatory to classify and to label all mixtures according to the CLP. Warehoused mixtures labelled according to DPD must be labelled according to the CLP within two years from this date

YEAR	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
CLP timeline	Substances		Classified, labelled and packaged under DSD. If CLP is applied in full as well, no DSD labelling and packaging		Classified under both DSD and CLP, labelled and packaged under CLP					Classified labelled and packaged under CLP			
	Mixtures		Classified labelled and packaged under DPD. If CLP is applied in full as well, no DPD labelling and packaging							Classified labelled and packaged under CLP			
		CLP enters into force: repeal of Annex I to DSD 20 <sup>th</sup> January 2009		Obligation to apply CLP to substances 1 <sup>st</sup> December 2010					Obligation to apply CLP to mixtures 1 <sup>st</sup> June 2015				

Since May 2010, Scharlab complies with the CLP classification system for all substances and mixtures manufactured under the Scharlau brand, chemicals and microbiological culture media product range. Additionally, all Scharlau chemicals manufactured from May 2010 onwards are labelled according to the CLP (continuously updated according to the Adaptation to Technical Progress: <http://echa.europa.eu/web/guest/regulations/clp/legislation>).

# Safe for you, safe for the environment

## Safety Data Sheet

SDS contents are also affected by both REACH and CLP. The new Regulation (EC) no. 453/2010 modifies CE 1907/2006 (REACH) and becomes the guideline for the issuing of SDS according to the CLP.

The main changes are introduced in the identification of substances and their uses, classification, and elements in the label, composition and toxicological information.

We are continuously updating SDS for products manufactured under the Scharlab brand making them compliant with new regulations.

SDS for all substances and mixtures are available through our website [scharlab.com](https://www.scharlab.com).

**Download the SDS to your smartphone, using our ScharlabQR App**

# SAFETY

## CLP COMPLIANCE

### Classification of Substances

The EU has aligned the CLP hazard classes with those from the UN GHS (Globally Harmonised System) closely matching the DSD categories for danger. Hazard classes are broken down further into hazard categories. The total number of hazard classes has increased.

#### CLP Hazard Classes and Categories

PHYSICAL HAZARDS	HEALTH HAZARDS
Explosives (Unstable explosives, Divisions 1.1, 1.2, 1.3, 1.4, 1.5, and 1.6) <sup>D</sup>	Acute toxicity, (Category 1, 2, 3 and 4) <sup>D</sup>
Flammable gases (Category 1 and 2) <sup>D</sup>	Skin corrosion/irritation, (Category 1A, 1B, 1C and 2) <sup>D</sup>
Flammable aerosols (Category 1 and 2) <sup>D</sup>	Serious eye damage/eye irritation, (Category 1 and 2) <sup>D</sup>
Oxidising gases (Category 1) <sup>D</sup>	Respiratory or skin sensitisation (Category 1) <sup>D</sup>
Gases under pressure (Compressed gas, liquefied gas, refrigerated liquefied gas, dissolved gas)	Germ cell mutagenicity, (Category 1A, 1B and 2) <sup>D</sup>
Flammable Liquids (Category 1, 2 and 3) <sup>D</sup>	Carcinogenicity, (Category 1A, 1B and 2) <sup>D</sup>
Flammable solids (Category 1 and 2) <sup>D</sup>	Reproductive toxicity (Category 1A, 1B and 2) <sup>D</sup> plus an additional category for effects on or via lactation
Self-reactive substances and mixtures (Type A, B, C, D, E, F & G) (Types A and B) <sup>D</sup>	Specific target organ toxicity (STOT) – single exposure ((Category 1, 2) <sup>D</sup> and Category 3 for narcotic effects and respiratory tract irritation, only)
Pyrophoric liquids (Category 1) <sup>D</sup>	Specific target organ toxicity (STOT) – repeated exposure (Category 1 and 2) <sup>D</sup>
Pyrophoric solids (Category 1) <sup>D</sup>	Aspiration hazard (Category 1) <sup>D</sup>
Self-heating substances and mixtures (Category 1 and 2)	
Substances and mixtures which in contact with water emit flammable gases (Category 1, 2 and 3) <sup>D</sup>	<b>ENVIRONMENTAL HAZARDS</b>
Oxidising liquids (Category 1, 2 and 3) (Cat 1 and 2) <sup>D</sup>	Hazardous to the aquatic environment (Acute Category 1, Chronic Category 1, 2, 3, and 4) <sup>D</sup>
Oxidising solids (Category 1, 2 and 3) (Cat 1 and 2) <sup>D</sup>	Hazardous to the ozone layer <sup>D</sup>
Organic peroxides, (Type A, B, C, D, E, F & G) (Types A to F) <sup>D</sup>	
Corrosive to metals (Category 1)	

<sup>D</sup>CLP hazard classifications (whole hazard class or the highlighted categories) which reflect –“classified as dangerous” under DSD/DPD.



## Hazard Pictograms

Hazard pictograms are related to hazard classes:

### Physical Hazards:



Explosives



Flammable liquids



Oxidising liquids



Compressed gases



Corrosive to metals

### Health Hazards:



Acute toxicity



Skin irritation



Skin corrosion



CMR<sup>(1)</sup>, STOT<sup>(2)</sup>,  
aspiration hazard



Hazardous to the  
aquatic environment

### Environment Hazards:

(1) carcinogenic, mutagenic, toxic to reproduction / (2) specific target organ toxicity

According to the CLP, risk (R) and safety (S) phrases are replaced by hazard (H) and precautionary (P) statements respectively. The H and P statements are coded using a unique code which consists of one letter and 3 numbers as follows:

- The letter H or P (some hazard statements carried through from DSD and DPD which are not yet included in the GHS are coded according to the EUH)
- A digit designating the type of hazard (i.e. 2 for physical hazard)
- Two digits corresponding to the sequential numbering of hazards (i.e. flammability codes from 220 to 230)

#### Code ranges for hazard and precautionary statements

##### H STATEMENTS

200-299 Physical hazards

300-399 Health hazards

400-499 Environment hazard

##### P STATEMENTS

1 00 General

2 00 Prevention

3 00 Response

4 00 Storage

5 00 Disposal

# SAFETY

## H&P STATEMENTS

### H: Hazard statements

#### Hazard statements for physical hazards

<b>H200</b>	Unstable explosives.
<b>H201</b>	Explosive; mass explosion hazard.
<b>H202</b>	Explosive, severe projection hazard.
<b>H203</b>	Explosive; fire, blast or projection hazard.
<b>H204</b>	Fire or projection hazard.
<b>H205</b>	May mass explode in fire.
<b>H220</b>	Extremely flammable gas.
<b>H221</b>	Flammable gas.
<b>H222</b>	Extremely flammable aerosol.
<b>H223</b>	Flammable aerosol.
<b>H224</b>	Extremely flammable liquid and vapour.
<b>H225</b>	Highly flammable liquid and vapour.
<b>H226</b>	Flammable liquid and vapour.
<b>H227</b>	Combustible liquid.
<b>H228</b>	Flammable solid.
<b>H229</b>	Pressurised container: May burst if heated.
<b>H230</b>	May react explosively even in the absence of air.
<b>H231</b>	May react explosively even in the absence of air at elevated pressure and/or temperature.
<b>H240</b>	Heating may cause an explosion.
<b>H241</b>	Heating may cause a fire or explosion.
<b>H242</b>	Heating may cause a fire.
<b>H250</b>	Catches fire spontaneously if exposed to air.
<b>H251</b>	Self-heating; may catch fire.
<b>H252</b>	Self-heating in large quantities; may catch fire.
<b>H260</b>	In contact with water releases flammable gases which may ignite spontaneously.
<b>H261</b>	In contact with water releases flammable gases.
<b>H270</b>	May cause or intensify fire; oxidiser.
<b>H271</b>	May cause fire or explosion; strong oxidiser.
<b>H272</b>	May intensify fire; oxidiser.
<b>H280</b>	Contains gas under pressure; may explode if heated.
<b>H281</b>	Contains refrigerated gas; may cause cryogenic burns or injury.
<b>H290</b>	May be corrosive to metals.

#### Hazard statements for health hazards

<b>H300</b>	Fatal if swallowed.
<b>H300+H310</b>	Fatal if swallowed or in contact with skin.
<b>H300+H310+H330</b>	Fatal if swallowed, in contact with skin or if inhaled.
<b>H300+H330</b>	Fatal if swallowed or if inhaled.
<b>H301</b>	Toxic if swallowed.
<b>H301+H311</b>	Toxic if swallowed or in contact with skin.
<b>H301+H311+H331</b>	Toxic if swallowed, in contact with skin or if inhaled.
<b>H301+H331</b>	Toxic if swallowed or if inhaled.
<b>H302</b>	Harmful if swallowed.
<b>H302+H312</b>	Harmful if swallowed or in contact with skin.
<b>H302+H312+H332</b>	Harmful if swallowed, in contact with skin or if inhaled.
<b>H302+H332</b>	Harmful if swallowed or if inhaled.
<b>H303</b>	May be harmful if swallowed.
<b>H303+H313</b>	May be harmful if swallowed or in contact with skin
<b>H303+H313+H333</b>	May be harmful if swallowed, in contact with skin or if inhaled
<b>H303+H333</b>	May be harmful if swallowed or if inhaled
<b>H304</b>	May be fatal if swallowed and enters airways.
<b>H305</b>	May be harmful if swallowed and enters airways.
<b>H310</b>	Fatal in contact with skin.
<b>H310+H330</b>	Fatal in contact with skin or if inhaled.
<b>H311</b>	Toxic in contact with skin.
<b>H311+H331</b>	Toxic in contact with skin or if inhaled.
<b>H312</b>	Harmful in contact with skin.
<b>H312+H332</b>	Harmful in contact with skin or if inhaled.
<b>H313</b>	May be harmful in contact with skin.
<b>H313+H333</b>	May be harmful in contact with skin or if inhaled
<b>H314</b>	Causes severe skin burns and eye damage.

<b>H315</b>	Causes skin irritation.
<b>H315+H320</b>	Causes skin and eye irritation
<b>H316</b>	Causes mild skin irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H318</b>	Causes serious eye damage.
<b>H319</b>	Causes serious eye irritation.
<b>H320</b>	Causes eye irritation.
<b>H330</b>	Fatal if inhaled.
<b>H331</b>	Toxic if inhaled.
<b>H332</b>	Harmful if inhaled.
<b>H333</b>	May be harmful if inhaled.
<b>H334</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>H335</b>	May cause respiratory irritation.
<b>H336</b>	May cause drowsiness or dizziness.
<b>H340</b>	May cause genetic defects.
<b>H341</b>	Suspected of causing genetic defects.
<b>H350</b>	May cause cancer.
<b>H350i</b>	May cause cancer by inhalation.
<b>H351</b>	Suspected of causing cancer.
<b>H360</b>	May damage fertility or the unborn child.
<b>H360D</b>	May damage the unborn child.
<b>H360Df</b>	May damage the unborn child. Suspected of damaging fertility.
<b>H360F</b>	May damage fertility.
<b>H360FD</b>	May damage fertility. May damage the unborn child.
<b>H360Fd</b>	May damage fertility. Suspected of damaging the unborn child.
<b>H361</b>	Suspected of damaging fertility or the unborn child.
<b>H361d</b>	Suspected of damaging the unborn child.
<b>H361f</b>	Suspected of damaging fertility.
<b>H361fd</b>	Suspected of damaging fertility. Suspected of damaging the unborn child.
<b>H362</b>	May cause harm to breast-fed children.
<b>H370</b>	Causes damage to organs.
<b>H371</b>	May cause damage to organs.
<b>H372</b>	Causes damage to organs through prolonged or repeated exposure.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.

## Hazard statements for environmental hazards

<b>H400</b>	Very toxic to aquatic life.
<b>H401</b>	Toxic to aquatic life.
<b>H402</b>	Harmful to aquatic life.
<b>H410</b>	Very toxic to aquatic life with long lasting effects.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>H412</b>	Harmful to aquatic life with long lasting effects.
<b>H413</b>	May cause long lasting harmful effects to aquatic life.
<b>H420</b>	Harms public health and the environment by destroying ozone in the upper atmosphere.

## European Union supplemental hazard information

### Physical properties

<b>EUH001</b>	Explosive when dry.
<b>EUH006</b>	Explosive with or without contact with air.
<b>EUH014</b>	Reacts violently with water.
<b>EUH018</b>	In use may form flammable / explosive vapour-air mixture.
<b>EUH019</b>	May form explosive peroxides.
<b>EUH044</b>	Risk of explosion if heated under confinement.

### Health properties

<b>EUH029</b>	Contact with water liberates toxic gas.
<b>EUH031</b>	Contact with acids liberates toxic gas.
<b>EUH032</b>	Contact with acids liberates very toxic gas.
<b>EUH066</b>	Repeated exposure may cause skin dryness or cracking.
<b>EUH070</b>	Toxic by eye contact.
<b>EUH071</b>	Corrosive to the respiratory tract.

## Environmental properties

**EUH059** Hazardous to the ozone layer.

### Other properties

<b>EUH201</b>	Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.
<b>EUH201A</b>	Warning! Contains lead.
<b>EUH202</b>	Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.
<b>EUH203</b>	Contains chromium (VI). May produce an allergic reaction.
<b>EUH204</b>	Contains isocyanates. May produce an allergic reaction.
<b>EUH205</b>	Contains epoxy constituents. May produce an allergic reaction.
<b>EUH206</b>	Warning! Do not use together with other products. May release dangerous gases (chlorine).
<b>EUH207</b>	Warning! Contains cadmium. Dangerous fumes are formed during use. See information supplied by the manufacturer. Comply with the safety instructions.
<b>EUH208</b>	Contains <name of sensitising substance>. May produce an allergic reaction.
<b>EUH209</b>	Can become highly flammable in use.
<b>EUH209A</b>	Can become flammable in use.
<b>EUH210</b>	Safety data sheet available on request.
<b>EUH401</b>	To avoid risks to human health and the environment, comply with the instructions for use.

## Precautionary statements-General

<b>P101</b>	If medical advice is needed, have product container or label at hand.
<b>P102</b>	Keep out of reach of children.
<b>P103</b>	Read label before use.

## Precautionary statements-Prevention

<b>P201</b>	Obtain special instructions before use.
<b>P202</b>	Do not handle until all safety precautions have been read and understood.
<b>P210</b>	Keep away from heat / sparks / open flames / hot surfaces. - No smoking.
<b>P210a</b>	Keep away from heat. - No smoking.
<b>P210b</b>	Keep away from sparks. - No smoking.
<b>P210c</b>	Keep away from open flames. - No smoking.
<b>P210d</b>	Keep away from hot surfaces. - No smoking.
<b>P211</b>	Do not spray on an open flame or other ignition source.
<b>P220</b>	Keep / Store away from clothing / combustible materials.
<b>P220a</b>	Keep away from clothing.
<b>P220b</b>	Keep away from combustible materials.
<b>P220c</b>	Keep away from reducing agents, heavy metal compounds, acids and alkalis.
<b>P220d</b>	Keep away from oxidising and acidic substances, as well as heavy metal compounds.
<b>P220e</b>	Keep away from iron.
<b>P220f</b>	Keep away from water.
<b>P220g</b>	Keep away from acids.
<b>P220h</b>	Keep away from alkaline solutions.
<b>P220i</b>	Keep away from metals.
<b>P220j</b>	Keep away from oxidising agents and acidic substances.
<b>P220k</b>	Keep away from flammable organic substances.
<b>P220l</b>	Keep away from acids, reducing agents and flammable materials.
<b>P221</b>	Take any precaution to avoid mixing with combustibles.
<b>P222</b>	Do not allow contact with air.
<b>P223</b>	Keep away from any possible contact with water, because of violent reaction and possible flash fire.
<b>P230</b>	Keep wetted with...

# SAFETY

## H&P STATEMENTS

<b>P230a</b>	Keep wetted.
<b>P231</b>	Handle under inert gas.
<b>P231+P232</b>	Handle under inert gas. Protect from moisture.
<b>P232</b>	Protect from moisture.
<b>P233</b>	Keep container tightly closed.
<b>P234</b>	Keep only in original container.
<b>P235</b>	Keep cool.
<b>P235+P410</b>	Keep cool. Protect from sunlight.
<b>P240</b>	Ground/bond container and receiving equipment.
<b>P241</b>	Use explosion-proof electrical / ventilating / lighting / equipment.
<b>P242</b>	Use only non-sparking tools.
<b>P243</b>	Take precautionary measures against static discharge.
<b>P244</b>	Keep reduction valves free from grease and oil.
<b>P250</b>	Do not subject to grinding / shock / friction.
<b>P251</b>	Pressurised container: Do not pierce or burn, even after use.
<b>P260</b>	Do not breathe dust / fume / gas / mist / vapours / spray.
<b>P261</b>	Avoid breathing dust / fume / gas / mist / vapours / spray.
<b>P262</b>	Do not get in eyes, on skin, or on clothing.
<b>P263</b>	Avoid contact during pregnancy / while nursing.
<b>P264</b>	Wash thoroughly after handling.
<b>P270</b>	Do not eat, drink or smoke when using this product.
<b>P271</b>	Use only outdoors or in a well-ventilated area.
<b>P272</b>	Contaminated work clothing should not be allowed out of the workplace.
<b>P273</b>	Avoid release to the environment.
<b>P280</b>	Wear protective gloves / protective clothing / eye protection / face protection.
<b>P280a</b>	Wear protective gloves and eye / face protection.
<b>P280b</b>	Wear protective gloves and eye protection.
<b>P280c</b>	Wear protective gloves and face protection.
<b>P280d</b>	Wear protective clothing and eye protection.

<b>P280e</b>	Wear protective clothing and face protection.
<b>P280f</b>	Wear protective clothing.
<b>P280g</b>	Wear protective gloves.
<b>P280h</b>	Wear protective gloves / clothing.
<b>P280i</b>	Wear eye / face protection.
<b>P280j</b>	Wear face protection.
<b>P281</b>	Use personal protective equipment as required.
<b>P282</b>	Wear cold insulating gloves / face shield / eye protection.
<b>P283</b>	Wear fire / flame resistant / retardant clothing.
<b>P284</b>	Wear respiratory protection.
<b>P285</b>	In case of inadequate ventilation wear respiratory protection.

## Precautionary statements – Response

<b>P301</b>	IF SWALLOWED:
<b>P301+P310</b>	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
<b>P301+P312</b>	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
<b>P301+P330+P331</b>	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
<b>P302</b>	IF ON SKIN:
<b>P302+P334</b>	IF ON SKIN: Immerse in cool water / wrap in wet bandages.
<b>P302+P350</b>	IF ON SKIN: Gently wash with plenty of soap and water.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of soap and water.
<b>P303</b>	IF ON SKIN (or hair):
<b>P303+P361+P353</b>	IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
<b>P304</b>	IF INHALED:
<b>P304+P312</b>	IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.
<b>P304+P340</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
<b>P304+P341</b>	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
<b>P305</b>	IF IN EYES:
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P306</b>	IF ON CLOTHING:
<b>P306+P360</b>	IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
<b>P307</b>	IF exposed:
<b>P307+P311</b>	IF exposed: Call a POISON CENTER or doctor / physician.
<b>P308</b>	IF exposed or concerned:
<b>P308+P311</b>	IF exposed or concerned: Call a POISON CENTER/doctor/...
<b>P308+P313</b>	IF exposed or concerned: Get medical advice / attention.
<b>P309</b>	IF exposed or if you feel unwell:
<b>P309+P311</b>	IF exposed or if you feel unwell: Call a POISON CENTER or doctor / physician.
<b>P310</b>	Immediately call a POISON CENTER or doctor / physician.
<b>P311</b>	Call a POISON CENTER or doctor / physician.
<b>P312</b>	Call a POISON CENTER or doctor / physician if you feel unwell.
<b>P313</b>	Get medical advice / attention.
<b>P314</b>	Get medical advice / attention if you feel unwell.
<b>P315</b>	Get immediate medical advice / attention.
<b>P320</b>	Specific treatment is urgent (see on this label).
<b>P321</b>	Specific treatment (see on this label).
<b>P322</b>	Specific measures (see on this label).
<b>P330</b>	Rinse mouth.
<b>P331</b>	Do NOT induce vomiting.
<b>P332</b>	If skin irritation occurs:



<b>P332+P313</b> If skin irritation occurs: Get medical advice attention.	<b>P364</b> And wash it before reuse.	<b>P373</b> DO NOT fight fire when fire reaches explosives.
<b>P333</b> If skin irritation or rash occurs:	<b>P370</b> In case of fire:	<b>P374</b> Fight fire with normal precautions from a reasonable distance.
<b>P333+P313</b> If skin irritation or rash occurs: Get medical advice / attention.	<b>P370+P376</b> In case of fire: Stop leak if safe to do so.	<b>P375</b> Fight fire remotely due to the risk of explosion.
<b>P334</b> Immerse in cool water / wrap in wet bandages.	<b>P370+P378</b> In case of fire: Use ... for extinction.	<b>P376</b> Stop leak if safe to do so.
<b>P335</b> Brush off loose particles from skin.	<b>P370+P378a</b> In case of fire: Use for extinction: CO <sub>2</sub> , powder or water spray.	<b>P377</b> Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
<b>P335+P334</b> Brush off loose particles from skin. Immerse in cool water / wrap in wet bandages.	<b>P370+P378b</b> In case of fire: Use for extinction: Special powder for metal fires.	<b>P378</b> Use ... for extinction.
<b>P336</b> Thaw frosted parts with lukewarm water. Do no rub affected area.	<b>P370+P378c</b> In case of fire: Use for extinction: CO <sub>2</sub> , sand, extinguishing powder.	<b>P378a</b> Use for extinction: CO <sub>2</sub> , powder or water spray.
<b>P337</b> If eye irritation persists:	<b>P370+P378d</b> In case of fire: Use for extinction: Water.	<b>P378b</b> Use for extinction: Special powder for metal fires.
<b>P337+P313</b> If eye irritation persists: Get medical advice / attention.	<b>P370+P378e</b> In case of fire: Use for extinction: Water haze.	<b>P378c</b> Use for extinction: CO <sub>2</sub> , sand, extinguishing powder.
<b>P338</b> Remove contact lenses, if present and easy to do. Continue rinsing.	<b>P370+P378f</b> In case of fire: Use for extinction: Water spray.	<b>P378d</b> Use for extinction: Water.
<b>P340</b> Remove victim to fresh air and keep at rest in a position comfortable for breathing.	<b>P370+P378g</b> In case of fire: Use for extinction: Foam.	<b>P378e</b> Use for extinction: Water haze.
<b>P341</b> If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.	<b>P370+P378h</b> In case of fire: Use for extinction: Alcohol resistant foam.	<b>P378f</b> Use for extinction: Water spray.
<b>P342</b> If experiencing respiratory symptoms:	<b>P370+P378i</b> In case of fire: Use for extinction: Fire-extinguishing powder.	<b>P378g</b> Use for extinction: Foam.
<b>P342+P311</b> If experiencing respiratory symptoms: Call a POISON CENTER or doctor / physician.	<b>P370+P378j</b> In case of fire: Use for extinction: BC powder.	<b>P378h</b> Use for extinction: Alcohol resistant foam.
<b>P350</b> Gently wash with plenty of soap and water.	<b>P370+P378k</b> In case of fire: Use for extinction: ABC powder.	<b>P378i</b> Use for extinction: Fire-extinguishing powder.
<b>P351</b> Rinse cautiously with water for several minutes.	<b>P370+P378l</b> In case of fire: Use for extinction: Carbon dioxide.	<b>P378j</b> Use for extinction: BC powder.
<b>P352</b> Wash with plenty of soap and water.	<b>P370+P378m</b> In case of fire: Use for extinction: Limestone powder.	<b>P378k</b> Use for extinction: ABC powder.
<b>P353</b> Rinse skin with water / shower.	<b>P370+P378n</b> In case of fire: Use for extinction: Cement.	<b>P378l</b> Use for extinction: Carbon dioxide.
<b>P360</b> Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.	<b>P370+P378o</b> In case of fire: Use for extinction: Sand.	<b>P378m</b> Use for extinction: Limestone powder.
<b>P361</b> Remove / Take off immediately all contaminated clothing.	<b>P370+P378p</b> In case of fire: Use for extinction: Dry sand.	<b>P378n</b> Use for extinction: Cement.
<b>P361+P364</b> Take off immediately all contaminated clothing and wash it before reuse.	<b>P370+P380</b> In case of fire: Evacuate area.	<b>P378o</b> Use for extinction: Sand.
<b>P362</b> Take off contaminated clothing and wash before reuse.	<b>P370+P380+P375</b> In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.	<b>P378p</b> Use for extinction: Dry sand.
<b>P362+P364</b> Take off contaminated clothing and wash it before reuse.	<b>P371</b> In case of major fire and large quantities:	<b>P380</b> Evacuate area.
<b>P363</b> Wash contaminated clothing before reuse.	<b>P371+P380+P375</b> In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.	<b>P381</b> Eliminate all ignition sources if safe to do so.
	<b>P372</b> Explosion risk in case of fire.	<b>P390</b> Absorb spillage to prevent material damage.
		<b>P391</b> Collect spillage.

# SAFETY

## H&P STATEMENTS

### Precautionary statements – Storage

<b>P401</b>	Store...
<b>P401a</b>	Store in accordance with local / regional / national / international regulations.
<b>P402</b>	Store in a dry place.
<b>P402+P404</b>	Store in a dry place. Store in a closed container.
<b>P403</b>	Store in a well-ventilated place.
<b>P403+P233</b>	Store in a well-ventilated place. Keep container tightly closed.
<b>P403+P235</b>	Store in a well-ventilated place. Keep cool.
<b>P404</b>	Store in a closed container.
<b>P405</b>	Store locked up.
<b>P406</b>	Store in corrosive resistant container with a resistant inner liner.
<b>P407</b>	Maintain air gap between stacks / pallets.
<b>P410</b>	Protect from sunlight.
<b>P410+P403</b>	Protect from sunlight. Store in a well-ventilated place.
<b>P410+P412</b>	Protect from sunlight. Do not expose to temperatures exceeding 50 °C / 122 °F.
<b>P411</b>	Store at temperatures not exceeding \$ °C / \$ °F.
<b>P411+P235</b>	Store at temperatures not exceeding \$ °C / \$ °F. Keep cool.
<b>P411a</b>	Store at temperatures not exceeding \$ °C.
<b>P411a+P235</b>	Store at temperatures not exceeding \$ °C. Keep cool.
<b>P411b</b>	Store at temperatures not exceeding \$ °F.
<b>P411b+P235</b>	Store at temperatures not exceeding \$ °F. Keep cool.
<b>P412</b>	Do not expose to temperatures exceeding 50 °C / 122 °F.
<b>P413</b>	Store bulk masses greater than \$ kg / \$ lbs at temperatures not exceeding \$ °C / \$ °F.
<b>P413a</b>	Store bulk masses greater than \$ kg at temperatures not exceeding \$ °C.

<b>P413b</b>	Store bulk masses greater than \$ lbs at temperatures not exceeding \$ °F.
<b>P420</b>	Store away from other materials.
<b>P420a</b>	Store away from foodstuffs.
<b>P420b</b>	Store away from flammable substances.
<b>P420c</b>	Store away from oxidizing agents.
<b>P420d</b>	Store away from reducing agents.
<b>P420e</b>	Store away from water.
<b>P420f</b>	Store away from metals.
<b>P420g</b>	Store away from acids.
<b>P420h</b>	Store away from caustic solutions.
<b>P422</b>	Store contents under...
<b>P422a</b>	Store contents under inert gas.
<b>P422b</b>	Store contents under protective gas.
<b>P422c</b>	Store contents under solvent.
<b>P422d</b>	Store under water.
<b>P422e</b>	Store in petroleum.
<b>P422f</b>	Store in nitrogen.

### Precautionary statements – Disposal

<b>P501</b>	Dispose of contents / container to...
<b>P501a</b>	Dispose of contents / container in accordance with local / regional / national / international regulations.
<b>P502</b>	Refer to manufacturer/supplier for information on recovery/recycling.

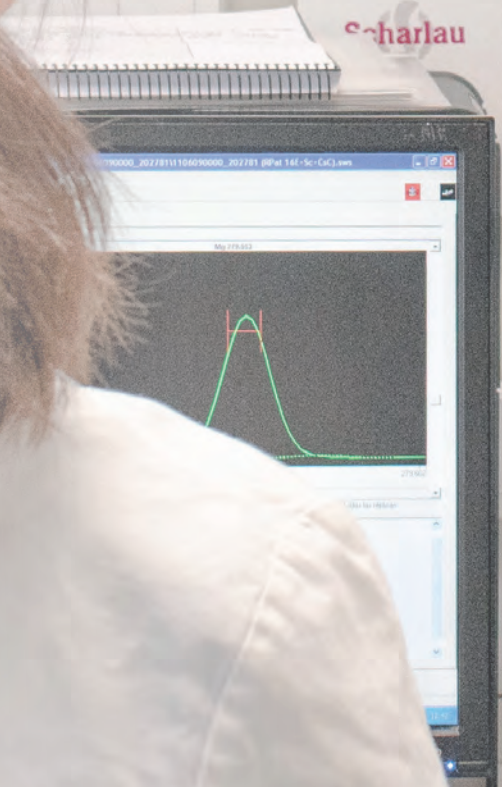


150  
YEARS  
Anniversary

# PERIODIC TABLE OF THE ELEMENTS

1	H	
2	Li	Be
3	Na	Mg
4	K	Ca
5	Rb	Sr
6	Cs	Ba
7	Fr	Ra

21	22	23	24	25	26	27	28	29	30	31
Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga
39	40	41	42	43	44	45	46	47	48	49
Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In
71	72	73	74	75	76	77	78	79	80	81
L	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl
A	104	105	106	107	108	109	110	111	112	113
S	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh
L	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy
A	89	90	91	92	93	94	95	96	97	98
	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf



# SAFETY

## DISPOSAL OF LABORATORY WASTE

The best thing is to prevent residues altogether.  
Please think of this, whenever you plan on purchasing laboratory chemicals.

### Avoid contamination of water

Elimination of residues down drains is strictly forbidden. You have to bear in mind, that many chemicals will not be reduced by the wastewater plants and will contaminate the environment.

### Residues in the laboratory

We highly recommend naming a person in charge of your company's residues. This person should be informed of the laws and regulations managing waste in your own country. In order to hand over the residues to a treatment plant, it is necessary to organise their prior collection and storage.

### Collection of residues in the laboratory

The material of the residue containers are made of has to comply with the following conditions:

1. One has to be able to close the containers hermetically and the material has to be resistant to the contents. Plastic containers should not form toxic fumes when disposed of through burning.
2. Generally, plastic containers are being used.
3. Corrosive products should be collected in metal drums with inner plastic lining, like our Combi drum (ref. 055-0C0025).
4. Inflammable or oxidising products should be collected in metal or plastic drums resistant to the solvent.
5. For products that produce gases or vapours, special containers with a security valve are required, in order to prevent the risk of explosions.

If the collection containers are handed over to a transport agency, they have to carry the UN number that approves them for road transportation.

For liquids, we highly recommend HDPE containers such as our 25 l containers, ref. 055-25000P or our 25 l Combi drums, ref. 055-0C0025. For solids, we recommend using the same material in which the original product was supplied, or wide-open HDPE containers.

### Classifying chemical laboratory residues

The residue producer is responsible for correctly classifying and labelling every residue. They must also deliver the residues to an authorised treatment plant.

Below, you can find a guide for residue classification.

### Solids

#### Container 0

Void contaminated containers. It includes bottles and drums as well as disposable contaminated laboratory materials (gloves, filters...).

#### Container I

Organic chemicals in solid form. In its original container or safely packed with permanent label.

#### Container II

Inorganic chemicals in solid form. In its original container and safely packed with permanent label.

#### Container III

Toxic inorganic residues and salts of heavy metals. In its original container or safely packed with permanent label.

#### Container IV

Mercury and salts of inorganic mercury salts. In its original container or safely packed with permanent label.

### Liquids

#### Container V

Organic solvents and organic substances in solution, containing no halogens. In HDPE containers labelled as "halogen free solvents".

#### Container VI

Organic solvents and organic substances in solution, containing halogens. In HDPE containers labelled as "halogen solvents".

Use of metal containers strictly forbidden. Internal corrosion due to the water or acid contained in the halogen is very high. Since metal containers are used up to 5 times on average, the risk of breakage and leaking is high.



### Container VII

Inorganic aqueous solutions. Adjust contents to pH 6-8.

- a) acids and acidic concentrates contaminated by oils, fats, solvents, tensides or other products which cannot be drained into the sink.
- b) bases and basic concentrates, contaminated with large quantities of cyanides and nitriles and which cannot be drained into the sink.
- c) saline solutions coming from neutralised acids and bases which cannot be drained into the sink.

In HDPE containers labelled as Aqueous inorganic solutions.

### Container VIII

Organic aqueous solutions. Include mixtures solvent/water like HPLC mobile phases.

### Container IX

Used oils, bath oils, vacuum oils (free from halogens).

### Container X

Toxic flammable compounds.

## Neutralisation of laboratory residues

Special precautions have to be taken as many chemical reactions can be very violent. All work has to be executed by qualified personnel, following the basic safety rules and always under a fume cupboard. The method chosen to neutralise the chemical must, in all events, be tried out first on a small scale, to see if there are any unforeseen problems.

To facilitate the disposal of small quantities, each product has been assigned a "Disposal number". This number refers to the particular paragraph set out below. The Container stipulated for collecting that chemical will be a Container listed earlier.

#### 1. Organic halogen-free solvents: Container V.

Small quantities of halogen-free solvents may be collected and disposed of together with halogen solvents. This residues can be cleaned up using Chemispill® Sorb (AB0002): Container II.

Be sure to test for absence of peroxides, before handing over to the waste disposal company.

#### 2. Organic halogen solvents: Container VI. This residues can be cleaned up using Chemispill® Sorb (AB0002): Container II.

#### 3. Relatively non-reactive organic reagents should be collected in Container V. If halogen, they should be placed in Container VI. For solid residues use Container I.

#### 4. Aqueous solutions of organic acids should be carefully neutralised with sodium hydrogen carbonate or sodium hydroxide: Container VII. Aromatic carboxylic acids should be precipitated with dilute hydrochloric acid and filtered off. Precipitate: Container I. Filtrate: Container VII.

Spillages or residues of this organic acids can be neutralised using Chemispill® H+ (AB0001) and after Chemispill® Sorb (AB0002): Container II.

#### 5. Organic bases and amines in solution: Container V or VI. To prevent unpleasant odours (fume cupboard), we recommend careful neutralisation with dilute hydrochloric acid or sulphuric acid.

Spillages or residues of this organic bases and amines can be neutralised using Chemispill® OH- (AB0003) and after Chemispill® Sorb (AB0002): Container II.

#### 6. Nitriles and mercaptans should be oxidised by stirring for several hours (preferably overnight) with sodium hypochlorite solution. Any excess oxidant should be neutralised with sodium thiosulphate. Organic phase: Container V or VI respectively. Aqueous phase: Container VII.

#### 7. Water-soluble aldehydes should be converted to bisulphite adducts using a concentrated aqueous sodium hydrogen sulphite solution: Container V or VI.

## SAFETY

# DISPOSAL OF LABORATORY WASTE

**8.** Hydrolysis-sensitive organo-metallic compounds, which are generally dissolved in an organic solvent, should be carefully stirred dropwise into n-butanol using a fume cupboard with the front screen closed. Any flammable gas formed should be fed via a tube directly into the extractor tubing. When gas development has ceased, continue stirring for one hour and add an excess of water. Organic phase: Container V. Aqueous phase: Container VII.

**9.** Alkyl sulphates are carcinogenic. Take special care to avoid inhalation and skin contact. To deactivate alkyl sulphates, add dropwise (from a dropping funnel) to concentrated ice-cool ammonia solution, under vigorous stirring: Container VII (adjust pH previously to 6-8).

**10.** Organic peroxides can be detected in aqueous solutions and organic solvents with the aid of test-kits and removed, percolating through liquid chromatography grade aluminium oxide. Organic residues: Container V or VI. Aqueous solutions: Container VII.

**11.** Acid halides should be added dropwise to an excess of methanol, in order to convert them to the corresponding methyl esters. A few drops of hydrochloric acid can be added to accelerate the reaction. Neutralise with sodium hydroxide solution: Container VI.

**12.** Inorganic acids and anhydrides thereof should first be diluted or hydrolysed by stirring carefully into ice-water, then neutralised (gloves, fume cupboard) with sodium hydroxide solution: Container VII.

Fuming sulphuric acid should be carefully stirred a drop at a time into 40% sulphuric acid. Have plenty of ice on hand for cooling. When sufficiently cool, treat the highly concentrated sulphuric acid as above.

Acid gases (hydrogen bromide, hydrogen chloride and hydrogen, iodide, chlorine, phosgene, sulphur dioxide) should be bubbled into dilute sodium hydroxide solution and treated as under Inorganic acids above.

**13.** Inorganic bases should be diluted if necessary, by carefully stirring them into ice-water, then neutralised (gloves, fume cupboard) with hydrochloric acid: Container VII.

**14.** Inorganic salts: Container II. Neutral solutions of these salts: Container VII.

**15.** Solutions and solids containing heavy metals: Container III. Stir Raney nickel in the form of an aqueous suspension into hydrochloric acid until dissolved: Container III.

Neither Raney nickel nor filter residues should be allowed to dry out, otherwise they will spontaneously ignite in air.

**16.** Highly toxic thallium salts and aqueous solutions of these must be handled with great caution; take special care to avoid skin contact: Container III.

Thallium salts in aqueous solution can be treated with sodium hydroxide to precipitate out thallium (III) oxide for reuse.

**17.** Inorganic selenium compounds are toxic and must be handled with caution: Container III.

Elemental selenium can be recovered by first oxidising the salts in aqueous solution with concentrated nitric acid. Addition of sodium hydrogen sulphite solution then causes elemental selenium to precipitate out. Aqueous phase: Container VII.

**18.** Carcinogenic beryllium and its salts must be handled with special caution. Be sure to avoid inhalation and skin contact: Container III.

**19.** Radioactive uranium and thorium compounds must be disposed of in compliance with local laws and regulations for each country.

**20.** Inorganic mercury residues: Elementary mercury can be taken up with Mercurisorb® (Carl Roth GmbH, Germany): Container IV.

**21.** Cyanides should first be oxidised to cyanates with hydrogen peroxide at pH 10-11. Further addition of oxidant at pH 8-9 oxidises the cyanates to CO<sub>2</sub>: Container VII.

Azides are decomposed to nitrogen by reacting them with iodine in presence of sodium thiosulphate: Container VII.

**22.** Inorganic peroxides and oxidants, as well as bromine and iodine, can be rendered harmless by reduction with acidic sodium thiosulphate solution: Container VII.

**23.** Hydrogen fluoride and solutions of inorganic fluorides must be handled with the utmost caution. Do not permit contact under any circumstances and be sure to work under an efficient fume cupboard with the front screen closed. Precipitate residues with calcium carbonate to obtain calcium fluoride. Precipitate: Container II. Filtrate: Container VII.

**24.** Residues of liquid inorganic halides and hydrolysis sensitive reagents should be carefully stirred a drop at a time into ice-cool 10% sodium hydroxide solution: Container III.

**25.** White phosphorus exposed to air is oxidised in an exothermic reaction to phosphorus pentoxide. This is why it must be permanently stored under water. White phosphorus is extremely toxic and must be handled with great care. Please contact an authorised disposal company. Red phosphorus is not toxic. It must not come into contact with oxidising substances: Container II.

Phosphorus compounds should be oxidised under an inert gas in an efficient fume cupboard with the front screen closed. For each gram of phosphorus compound, measure out a 100 ml aliquot of 5% sodium hypochlorite solution, containing 5 ml of 50% sodium hydroxide solution and carefully add the substance solution to be inactivated, a drop at a time, under ice cooling. Add calcium hydroxide and filter off the precipitating phosphates. Precipitate: Container II. Aqueous solutions: Container VII.

**26.** Alkali metals should be taken up in an inert solvent and inactivated by stirring and dropwise addition of 2-propanol. Important: hydrogen is formed and may form explosive mixtures, so conduct the gas through a tube directly to the extractor tubing. When the reaction has finished, add water a drop at a time: Container VII.

In the case of alkali borohydrides, add methanol under stirring. In the case of alkali amides and hydrides add 2-propanol drop wise under stirring. When the respective reaction has finished, hydrolyse with water: Container VII.

To destroy lithium aluminium hydride, slurry in an ether. Under an inert gas and under thorough stirring, add, a drop at a time, a 1:4 mixture of ethyl acetate and ether. Ensure that none of the reagent solution touches the sides of the flask, as this may lead to small pockets of residue which do not completely react: Container V

**27.** Residues containing valuable recoverable metals. Container III.

**28.** Aqueous solutions: Container VII. This aqueous residues can be cleaned up using Chemispill® Sorb (AB0002): Container II.

**29.** Aluminium alkyls are extremely hydrolysis-sensitive. They should be diluted with an inert solvent under protective gas, followed by the dropwise addition of 1-octanol and, once the reaction has ceased, subsequently of water. Container X.

**30.** The laboratory detergents nowadays available are biodegradable and do not contaminate the environment. However, if they have been used to eliminate substances which are harmful to the environment, collect the wash water in Container VII.

**31.** Natural substances, e.g. carbohydrates, amino acids and other aqueous residues typical of a biochemical laboratory: Container VII. When mixed with organic solvents or reagents: Container V or VI.

**32.** Chromatography residues.

Aggressive or toxic substances absorbed in the stationary phase of layers or columns must be eliminated by elution or wash out, before disposal. The solvents used have to be classified according to their properties.

Larger quantities of stationary phase should be freed from solvents (drying or vacuum) and then packed in resistant plastic bags: Container II.

TLC plates and HPLC columns can be disposed of together with contaminated solids. Container 0.

# INDEX

## ABBREVIATIONS














<b>AAS</b>	Atomic Absorption Spectrometry	<b>DEV</b>	Deutsches Einheitsverfahren zur Wasser, Abwasser- und Schlamm Untersuchung (German standards methods for the analysis of water, wastewater and sludge)	<b>GMP</b>	Good Manufacturing Practice
<b>ACS</b>	American Chemical Society	<b>DI</b>	Deionised	<b>GPC</b>	Gel Permeation Chromatography
<b>ADR</b>	Agreement concerning the International Carriage of Dangerous Goods by Road	<b>DIN</b>	German standards institute (Deutsches Institut für Normung)	<b>GR</b>	Guaranteed Reagent
<b>AFNOR</b>	French Association of Standardisation (Association Française de Normalisation)	<b>DMF</b>	Dimethylformamide	<b>HDPE</b>	High-density Polyethylene
<b>AOAC</b>	Association of Official Agricultural Chemists	<b>DMSO</b>	Dimethyl Sulfoxide	<b>H</b>	Hazard Statement
<b>AOX</b>	Absorbable Organic Halogen	<b>DSC</b>	Differential Scanning Calorimetry	<b>HIC</b>	Hydrophobic interaction chromatography
<b>APHA</b>	American Public Health Association	<b>E Nr.</b>	Number code for food additives	<b>HP</b>	Harmonised Pharmacopoeias (European, American and Japanese)
<b>API</b>	Active Pharmaceutical Ingredients	<b>EC</b>	Enzyme Commission	<b>HPLC</b>	High-Performance Liquid Chromatography
<b>AR</b>	Analytical Reagent	<b>ECD</b>	Electron Capture Detector	<b>HPTLC</b>	High-Performance Thin-Layer Chromatography
<b>ASTM</b>	American Society for Testing and Material	<b>EDI</b>	Electro deionisation	<b>HS</b>	Harmonised System
<b>ATP</b>	Adenosinetriphosphate	<b>EDQM</b>	European Directorate for the Quality of Medicines	<b>IATA</b>	International Air Transport Association
<b>AWWA</b>	American Water Works Association	<b>EINECS</b>	European Inventory of Existing Chemical Substances	<b>IC</b>	Ion Chromatography
<b>BAT</b>	Biological Substance Tolerance Value	<b>EN</b>	European Norm	<b>ICP</b>	Induction-Coupled Plasma
<b>BET</b>	Surface determination according to Brunauer, Emmet and Teller	<b>EOCI</b>	Extractable Organic Chlorine	<b>ICR</b>	Industrial Clean Room
<b>BOD</b>	Biological Oxygen Demand	<b>EP</b>	European Pharmacopoeia	<b>IDF</b>	International Dairy Federation
<b>BP</b>	British Pharmacopoeia	<b>EPA</b>	Environmental Protection Agency (USA)	<b>IFU</b>	International Federation of Fruit Juice Producers
<b>BPC</b>	British Pharmaceutical Codex	<b>Erg B</b>	Ergänzung zum deutschen Arzneibuch (German Pharmacopoeia supplement)	<b>IMDG</b>	International Maritime Goods
<b>BRN</b>	Beilstein Registration Number	<b>F Bras</b>	Farmacopoeia Brasileira	<b>IP</b>	Indian Pharmacopoeia
<b>BS</b>	British Standards	<b>FAM</b>	German mineral oil and fuel standards commission (Fachausschuss für Mineralöl- und Brennstoffnormung)	<b>IR</b>	Infrared Spectroscopy
<b>BSA</b>	Bovine Serum Albumin	<b>FCC</b>	Food Chemicals Codex / USA	<b>ISO</b>	International Organisation for Standardisation
<b>CAO</b>	Freight aircraft	<b>FDA</b>	Food and Drug Administration (USA)	<b>IUPAC</b>	International Union of Pure and Applied Chemistry
<b>CAP</b>	College of American Pathologists	<b>FD &amp; C</b>	Food, Drug and Cosmetic (USA)	<b>IVD</b>	Certification: In Vitro Diagnostics
<b>CAS</b>	Chemical Abstracts Service	<b>FIA</b>	Fluorescence Indicator Analysis	<b>JP</b>	Japanese Pharmacopoeia
<b>CE</b>	Conformité Européenne	<b>FID</b>	Flame Ionisation Detector	<b>JPE</b>	Japanese Pharmaceutical Excipients
<b>CEN</b>	Centre Européen pour la Normalisation	<b>FIL</b>	Federation Internationale Laitière	<b>KF</b>	Karl Fischer
<b>CGS</b>	Centimeter-gram-second (system of units)	<b>FIP</b>	Federation Internationale Pharmaceutique	<b>LC</b>	Liquid Chromatography
<b>C.I. No.</b>	Colour Index Number	<b>FO</b>	Fibre Optics	<b>LCD</b>	Liquid-Crystal Display
<b>CLP</b>	Classification, Labelling and Packaging	<b>FU</b>	Farmacopoea Ufficiale della Repubblica Italiana	<b>LC-MS</b>	Liquid Chromatography Mass Spectrometry
<b>CLSI</b>	Clinical and Laboratory Standards Institute Inc.	<b>GC</b>	Gas Chromatography	<b>LDPE</b>	Low-Density Polyethylene
<b>CLRW</b>	Clinical Laboratory Reagent Water	<b>GC-MS</b>	Gas Chromatography Mass Spectrometry	<b>LLC</b>	Liquid-Liquid Chromatography
<b>COA</b>	Certificate of Analysis	<b>GHS</b>	Globally Harmonised System	<b>LLPC</b>	Liquid-Liquid Partition Chromatography
<b>COD</b>	Chemical Oxygen Demand	<b>GLP</b>	Good Laboratory Practice	<b>LSC</b>	Liquid-Solid Chromatography
<b>CRM</b>	Certified Reference Material			<b>MAC</b>	Maximum Allowed Concentration
<b>C. France</b>	Codex Français			<b>MAK</b>	Maximale Arbeitsplatzkonzentration (Maximum Workplace Concentration)
<b>DAB</b>	Deutsches Arzneibuch (German Pharmacopoeia)			<b>MOS</b>	Metal-Oxide Semiconductor
<b>DAC</b>	Deutscher Arzneimittel-Codex (German Pharmaceutical Codex)				
















<b>MS</b>	Mass Spectrometry	<b>PTFE</b>	Polytetrafluoroethylene	<b>VbF</b>	Verordnung über brennbare Flüssigkeiten (Regulation of flammable liquids)
<b>MSDS</b>	Material Safety Data Sheet	<b>PVDF</b>	Polyvinylidenfluoride	<b>VHP</b>	Very High Pressure
<b>NBS</b>	National Bureau of Standards	<b>REACH</b>	Register, Evaluation, Authorisation and Restriction of Chemicals	<b>VLSI</b>	Very Large-Scale Integrated Circuits
<b>NCLSS</b>	National Committee for Clinical Laboratory Standards	<b>RFA</b>	Röntgen-Fluoreszenz-Analyse (X-Ray Fluorescence Analysis)	<b>VOC</b>	Volatile Organic Compound
<b>NF</b>	The National Formulary (USA)	<b>R</b>	Risk phrases	<b>WEF</b>	Water Environment Federation
<b>NIST</b>	National Institute of Standards and Technology	<b>RFID</b>	Radio-Frequency Identification	<b>WGK</b>	German Water Hazard
<b>NIOSH</b>	National Institute for Occupational Safety and Health	<b>RI</b>	Refractive Index	<b>WHO</b>	World Health Organisation
<b>NMR</b>	Nuclear Magnetic Resonance spectrometry	<b>RNA</b>	Ribonucleic Acid	<b>XRF</b>	X-Ray Fluorescence
<b>NNR</b>	New and Nonofficial Remedies	<b>RO</b>	Reverse Osmosis		
<b>NPD</b>	Nitrogen Phosphorus Detector	<b>RP</b>	Reversed-Phase Chromatography		
<b>NT</b>	New Technology	<b>RTECS</b>	Registry of Toxic Effects of Chemical Substances		
<b>NTA</b>	Nitriloacetic Acid	<b>SDS</b>	Safety Data Sheet		
<b>NTU</b>	Nephelometric Turbidity Unit	<b>SDS-PAGE</b>	Sodium Dodecylsulphate - Polyacrylamide Gel Electrophoresis		
<b>ÖAB</b>	Österreichisches Arzneibuch (Austrian Pharmacopoeia)	<b>S</b>	Safety phrases		
<b>OES</b>	Optical Emission Spectrometry	<b>SI</b>	International System of Units		
<b>OQ</b>	Operational Qualification	<b>SL</b>	Schweizerisches Lebensmittelbuch (Swiss Food Manual)		
<b>P</b>	Precautionary Statement	<b>SMD</b>	Standards Methods for the Examination of Dairy Products		
<b>PA</b>	Polyamide	<b>SMWW</b>	Standards Methods for the Examination of Water and Wastewater		
<b>PAH</b>	Polycyclic Aromatic Hydrocarbons	<b>SRM</b>	Standards Reference Material		
<b>PAX</b>	Passenger Aircraft	<b>SVHC</b>	Substances of Very High Concern		
<b>PCB</b>	Polychlorinated Biphenyls	<b>TCD</b>	Thermal Conductivity Detector		
<b>PCR</b>	Polymerase Chain Reaction	<b>TDS</b>	Technical Data Sheet		
<b>Ph Belg</b>	Belgian Pharmacopoeia	<b>THF</b>	Tetrahydrofuran		
<b>Ph Dan</b>	Danish Pharmacopoeia	<b>TIC</b>	Total Inorganic Carbon		
<b>Ph Eur</b>	European Pharmacopoeia Monography	<b>TISAB</b>	Total Ionic Strength Adjustment Buffer		
<b>Ph F</b>	Finnish Pharmacopoeia	<b>TLC</b>	Thin-Layer Chromatography		
<b>Ph Franc</b>	French Pharmacopoeia	<b>TOC</b>	Total Organic Carbon		
<b>Ph Helv</b>	Swiss Pharmacopoeia	<b>UHPLC</b>	Ultra-High Performance Liquid Chromatography		
<b>Ph Ned</b>	Dutch Pharmacopoeia	<b>ULSI</b>	Ultra Large-Scale Integrated Circuits		
<b>Ph Nord</b>	Nordic Pharmacopoeia	<b>UN</b>	United Nations		
<b>Ph Norv</b>	Norwegian Pharmacopoeia	<b>USP</b>	The United States Pharmacopoeia		
<b>Ph Svec</b>	Swedish Pharmacopoeia	<b>ÜS-EPA</b>	US Environmental Protection Agency		
<b>PLC</b>	Preparative-Layer Chromatography	<b>UV</b>	Ultraviolet Spectroscopy		
<b>PND</b>	Phosphorus Nitrogen Detector	<b>UV/VIS</b>	Ultraviolet-Visible Spectroscopy		
<b>PP</b>	Polypropylene				
<b>ppb</b>	Parts per billion				
<b>ppm</b>	Parts per million				
<b>ppt</b>	Parts per trillion				

# INDEX













## PRODUCT GRADE COLOUR GUIDE

	EssentQ®
	ExpertQ®
	Pharmpur®
	HPLC
	LC-MS
	UHPLC-MS
	Multisolvant®
	GC residue Analysis
	GC Ultra-Trace residue Analysis
	GC-MS
	GC Headspace Analysis
	Dry solvents
	Anhydrous solvents

	Spectrosol® Deuterated solvents
	Organic Synthesis solvents
	Molecular Biology
	Histology
	VLSI
	ASTM
	Ultrapure® Ultrapure acids
	Volumetric solutions
	Acids with low Mercury Content
	Standards
	Aquagent® reagents and solvents for Karl Fischer titration
	Deterlabo®
	Chemispill®

# INDEX

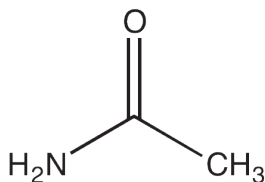
## FIGURES OF CONTAINERS

Glass bottle	
HDPE container	
Glass bottle with a cap and septum	
Laminated glass bottle	
Glass ampoule	
Plastic ampoule	
Glass vial	
HDPE carboy 5 l or 25 l	
5 l metal can	
5 l aluminium container	
Wide mouth plastic container	
10 l "Kubitainer"	

25 l metal drum	
25 l metal drum combi	
25 l stainless steel drum	
60 l PE drum with a spring cap	
200 l metal drum	
Cardboard box	
7 l returnable stainless steel packaging	
25 l returnable stainless steel safety drum	
Combination pack glass bottle / cardboard box	
HDPE screw-capped bottle and dropper	
Pressurised stainless steel container	

## ACETAMIDE

AC0050 Acetamide, EssentQ®



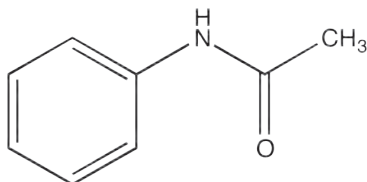
- Synonyms: Acetic acid amide
- C<sub>2</sub>H<sub>5</sub>NO
- M = 59,07 g/mol
- CAS [60-35-5]
- EINECS-No.: 200-473-5
- Solub. in water: (20 °C): soluble
- Melting point: 78 - 81 °C
- Boiling point: (13 hPa) 105 °C
- Vapour pressure: (65 °C) 1,33 hPa
- LD 50 (oral, rat): 7000 mg/kg
- EC-Index-No.: 616-022-00-4
- GHS-signal word: Warning
- GHS-H sentences: H351
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2924 19 00 90
- Applications: solvents, plasticizer, synthesis of organic products.

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 free acid (as CH<sub>3</sub>COOH) . . . . . max. 0,5 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,002 %  
 nickel (Ni) . . . . . max. 0,002 %  
 residue on ignition (as SO<sub>2</sub>) . . . . . max. 0,01 %  
 water (K.F.) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
AC00500500	500 g	Ⓟ
AC0050005P	5 kg	Ⓟ

## ACETANILIDE

AC0065 Acetanilide, EssentQ®

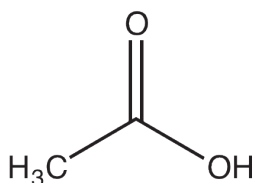


- Synonyms: N-Phenylacetamide
- C<sub>9</sub>H<sub>9</sub>NO
- M = 135,17 g/mol
- CAS [103-84-4]
- EINECS-No.: 203-150-7
- Solub. in water: (20 °C): 5 g/l
- Melting point: 115 °C
- Boiling point: 304 °C
- Flash pt. 174 °C
- Ignition temp.: 540 °C
- LD 50 (oral, rat): 800 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2924 29 98 99
- Applications: for pharmaceutical use, manufacture of dyes.

assay (bromometric) . . . . . 98,5 - 101 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in C<sub>2</sub>H<sub>5</sub>OH . . . . . passes test  
 pH (1 % H<sub>2</sub>O) . . . . . 5 - 7  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 aniline . . . . . max. 0,06 %  
 phenol . . . . . max. 0,002 %  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC00651000	1 kg	Ⓟ

## ACETIC ACID GLACIAL



- Synonyms: Methane carboxylic acid, Methylformic acid
- CH<sub>3</sub>COOH
- M = 60,05 g/mol
- CAS [64-19-7]
- EINECS-No.: 200-580-7
- Density: 1,05 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 17 °C
- Boiling point: 117 °C
- Flash pt. 39 °C
- Ignition temp.: 485 °C
- Vapour pressure: (20 °C) 15,4 hPa
- Refraction index: (20 °C) 1,37

- LD 50 (oral, rat): 3310 mg/kg
- EC-Index-No.: 607-002-00-6
- ADR: 8 CF1 II UN 2789
- IMDG: 8 II UN 2789
- IATA/ICAO: 8 II UN 2789
- GHS-signal word: Danger
- GHS-H sentences: H314 - H226
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2915 21 00 10
- Applications: laboratory reagent, synthesis of organic products, in the rubber industry, in food industry.

AC0343 Acetic acid glacial, EssentQ®



assay (acidimetric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,048 - 1,050  
 residue on evaporation . . . . . max. 0,002 %  
 water (K.F.) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
AC03431000	1 l	Ⓟ
AC03432500	2,5 l	Ⓟ

ART. NO.	VOLUME	CONTAINER
AC0343005P	5 l	Ⓟ
AC0343025P	25 l	Ⓟ

AC0342 Acetic acid glacial, extra pure, Pharpur®, Ph Eur, BP, USP



assay (acidimetric) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 appearance . . . . . clear and colourless  
 freezing point . . . . . min. 14,8°C  
 chlorides (Cl) . . . . . max. 25 ppm  
 chlorides (Cl) . . . . . passes test  
 sulfates (SO<sub>4</sub>) . . . . . max. 50 ppm  
 sulfates (SO<sub>4</sub>) . . . . . passes test

iron (Fe) . . . . . max. 5 ppm  
 reducing substances . . . . . passes test  
 residue on evaporation . . . . . max. 0,005 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC03421000	1 l	Ⓟ
AC03422500	2,5 l	Ⓟ
AC0342005P	5 l	Ⓟ
AC0342025P	25 l	Ⓟ

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**AC0344 Acetic acid glacial, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur**



assay (acidimetric) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,048 - 1,050  
 boiling point . . . . . 117 - 119 °C  
 freezing point . . . . . min. 15,8 °C  
 colour (Hazen) . . . . . max. 10  
 titrable base . . . . . max. 0,0004 meq/g  
 chlorides (Cl) . . . . . max. 0,00004 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00004 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00004 %  
 aluminium (Al) . . . . . max. 0,02 ppm  
 arsenic (As) . . . . . max 0,01 ppm  
 barium (Ba) . . . . . max 0,01 ppm  
 beryllium (Be) . . . . . max. 0,005 ppm  
 bismuth (Bi) . . . . . max. 0,05 ppm  
 boron (B) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max. 0,02 ppm  
 calcium (Ca) . . . . . max. 0,1 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max 0,01 ppm  
 copper (Cu) . . . . . max 0,01 ppm  
 gallium (Ga) . . . . . max. 0,05 ppm  
 germanium (Ge) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max 0,01 ppm  
 heavy metals (as Pb) . . . . . max. 0,5 ppm  
 indium (In) . . . . . max. 0,05 ppm  
 iron (Fe) . . . . . max. 0,05 ppm

lead (Pb) . . . . . max 0,01 ppm  
 lithium (Li) . . . . . max 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,05 ppm  
 manganese (Mn) . . . . . max 0,01 ppm  
 mercury (Hg) . . . . . max. 0,005 ppm  
 molybdenum (Mo) . . . . . max 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,1 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,005 ppm  
 sodium (Na) . . . . . max. 0,2 ppm  
 strontium (Sr) . . . . . max 0,01 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,05 ppm  
 vanadium (V) . . . . . max 0,01 ppm  
 zinc (Zn) . . . . . max. 0,03 ppm  
 zirconium (Zr) . . . . . max. 0,05 ppm  
 acetaldehyde (CH<sub>3</sub>CHO) . . . . . max. 0,0002 %  
 acetic anhydride (CH<sub>3</sub>CO)<sub>2</sub>O . . . . . max. 0,01 %  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 substances reducing K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> . . . . . passes test  
 miscibility with water . . . . . total  
 dilution test . . . . . passes test  
 substances reducing iodine . . . . . negative reaction  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC03441000	1 l	0
AC03442500	2,5 l	0
AC0344005P	5 l	0
AC0344025P	25 l	0

**AC0345 Acetic acid glacial, min. 99,8%, ExpertQ®, for analysis, according to Wijs**



assay (acidimetric) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,048 - 1,050  
 colour (Hazen) . . . . . max. 10  
 chlorides (Cl) . . . . . max. 0,4 ppm  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,4 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,4 ppm  
 aluminium (Al) . . . . . max. 0,05 ppm  
 arsenic (As) . . . . . max 0,01 ppm  
 barium (Ba) . . . . . max 0,01 ppm  
 beryllium (Be) . . . . . max. 0,005 ppm  
 bismuth (Bi) . . . . . max. 0,05 ppm  
 cadmium (Cd) . . . . . max. 0,02 ppm  
 calcium (Ca) . . . . . max. 0,1 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max 0,01 ppm  
 copper (Cu) . . . . . max 0,01 ppm  
 gallium (Ga) . . . . . max. 0,05 ppm  
 germanium (Ge) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max 0,01 ppm  
 heavy metals (as Pb) . . . . . max. 0,5 ppm  
 indium (In) . . . . . max. 0,05 ppm  
 iron (Fe) . . . . . max. 0,05 ppm  
 lead (Pb) . . . . . max 0,01 ppm

lithium (Li) . . . . . max 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,05 ppm  
 manganese (Mn) . . . . . max 0,01 ppm  
 mercury (Hg) . . . . . max. 0,005 ppm  
 molybdenum (Mo) . . . . . max 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,1 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,005 ppm  
 sodium (Na) . . . . . max. 0,2 ppm  
 strontium (Sr) . . . . . max 0,01 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,05 ppm  
 vanadium (V) . . . . . max 0,01 ppm  
 zinc (Zn) . . . . . max. 0,03 ppm  
 zirconium (Zr) . . . . . max. 0,05 ppm  
 acetaldehyde (CH<sub>3</sub>CHO) . . . . . max. 2 ppm  
 acetic anhydride (CH<sub>3</sub>CO)<sub>2</sub>O . . . . . max. 0,01 %  
 reducing substances . . . . . passes test  
 substances reducing K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> . . . . . passes test  
 indifference to chromic acid . . . . . passes test  
 residue on evaporation . . . . . max. 5 ppm  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC03451000	1 l	0
AC03452500	2,5 l	0

**AC0353 Acetic acid glacial, ExpertQ®, for analysis, ACS, ISO, packed in HDPE bottles**



assay (acidimetric) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,048 - 1,050  
 colour (Hazen) . . . . . max. 10  
 titrable base . . . . . max. 0,0004 meq/g  
 dilution test . . . . . passes test  
 miscibility with water . . . . . total  
 chlorides (Cl) . . . . . max. 0,00004 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00004 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00004 %  
 aluminium (Al) . . . . . max. 0,02 ppm  
 arsenic (As) . . . . . max 0,01 ppm  
 barium (Ba) . . . . . max 0,01 ppm  
 beryllium (Be) . . . . . max. 0,005 ppm  
 bismuth (Bi) . . . . . max. 0,05 ppm  
 boron (B) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max. 0,02 ppm  
 calcium (Ca) . . . . . max. 0,1 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max 0,01 ppm  
 copper (Cu) . . . . . max 0,01 ppm  
 gallium (Ga) . . . . . max. 0,05 ppm  
 germanium (Ge) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max 0,01 ppm  
 heavy metals (as Pb) . . . . . max. 0,5 ppm  
 indium (In) . . . . . max. 0,05 ppm

iron (Fe) . . . . . max. 0,05 ppm  
 lead (Pb) . . . . . max 0,01 ppm  
 lithium (Li) . . . . . max 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,05 ppm  
 manganese (Mn) . . . . . max 0,01 ppm  
 mercury (Hg) . . . . . max. 0,005 ppm  
 molybdenum (Mo) . . . . . max 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,1 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,005 ppm  
 sodium (Na) . . . . . max. 0,2 ppm  
 strontium (Sr) . . . . . max 0,01 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,05 ppm  
 vanadium (V) . . . . . max 0,01 ppm  
 zinc (Zn) . . . . . max. 0,03 ppm  
 zirconium (Zr) . . . . . max. 0,05 ppm  
 acetaldehyde (CH<sub>3</sub>CHO) . . . . . max. 0,0002 %  
 acetic anhydride (CH<sub>3</sub>CO)<sub>2</sub>O . . . . . max. 0,01 %  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 substances reducing K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> . . . . . passes test  
 substances reducing iodine . . . . . negative reaction  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC03531000	1 l	0
AC03532500	2,5 l	0
AC0353005P	5 l	0
AC0353025P	25 l	0



## AC0346 Acetic acid glacial, HPLC grade



assay (acidimetric) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,048 - 1,050  
 residue on evaporation . . . . . max. 0,0002 %  
 water (K.F.) . . . . . max. 0,2 %

Microfiltered through membranes of pore diameter  
 0,22 µm min. transmission/max. absorbance in a 1,0  
 cm cell at wavelength: T(%) A (AU)  
 260 nm 80 % 0,097 AU  
 270 nm 95 % 0,022 AU  
 280 nm 98 % 0,009 AU

ART. NO.	VOLUME	CONTAINER
AC03461000	1 l	0
AC03462500	2,5 l	0

## AC0347 Acetic acid glacial, eluent additive for LC-MS



assay (acidimetric) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 aluminium (Al) . . . . . max. 0,05 ppm  
 barium (Ba) . . . . . max. 0,05 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,05 ppm  
 chromium (Cr) . . . . . max. 0,05 ppm  
 cobalt (Co) . . . . . max. 0,05 ppm  
 copper (Cu) . . . . . max. 0,05 ppm  
 iron (Fe) . . . . . max. 0,2 ppm  
 lead (Pb) . . . . . max. 0,05 ppm  
 lithium (Li) . . . . . max. 0,05 ppm

magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,05 ppm  
 molybdenum (Mo) . . . . . max. 0,05 ppm  
 nickel (Ni) . . . . . max. 0,05 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,05 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max. 0,05 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 suitability for use in LC-MS . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AC03470050	50 ml	0

## AC0358 Acetic acid glacial, Ultratrace®, ppb-trace analysis grade



assay (acidimetric) . . . . . min. 99 %  
 colour (Hazen) . . . . . max. 10  
 chlorides (Cl) . . . . . max. 0,0001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,0001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00005 %  
 substances reducing K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> . . . . . passes test  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 aluminium (Al) . . . . . max. 1 ppb  
 antimony (Sb) . . . . . max. 0,5 ppb  
 arsenic (As) . . . . . max. 0,5 ppb  
 barium (Ba) . . . . . max. 0,5 ppb  
 beryllium (Be) . . . . . max. 0,1 ppb  
 bismuth (Bi) . . . . . max. 0,1 ppb  
 cadmium (Cd) . . . . . max. 0,5 ppb  
 calcium (Ca) . . . . . max. 1 ppb  
 cerium (Ce) . . . . . max. 0,1 ppb  
 cesium (Cs) . . . . . max. 0,1 ppb  
 chromium (Cr) . . . . . max. 1 ppb  
 cobalt (Co) . . . . . max. 0,1 ppb  
 copper (Cu) . . . . . max. 0,5 ppb  
 dysprosium (Dy) . . . . . max. 0,1 ppb  
 erbium (Er) . . . . . max. 0,1 ppb  
 europium (Eu) . . . . . max. 0,1 ppb  
 gadolinium (Gd) . . . . . max. 0,1 ppb  
 gallium (Ga) . . . . . max. 0,1 ppb  
 germanium (Ge) . . . . . max. 0,5 ppb  
 hafnium (Hf) . . . . . max. 0,1 ppb  
 holmium (Ho) . . . . . max. 0,1 ppb  
 indium (In) . . . . . max. 0,1 ppb  
 iron (Fe) . . . . . max. 1 ppb  
 lanthanum (La) . . . . . max. 0,1 ppb  
 lead (Pb) . . . . . max. 0,1 ppb  
 lithium (Li) . . . . . max. 0,1 ppb  
 lutetium (Lu) . . . . . max. 0,1 ppb

magnesium (Mg) . . . . . max. 0,5 ppb  
 manganese (Mn) . . . . . max. 0,5 ppb  
 mercury (Hg) . . . . . max. 1 ppb  
 molybdenum (Mo) . . . . . max. 0,5 ppb  
 neodymium (Nd) . . . . . max. 0,1 ppb  
 nickel (Ni) . . . . . max. 0,5 ppb  
 platinum (Pt) . . . . . max. 0,5 ppb  
 potassium (K) . . . . . max. 1 ppb  
 praseodymium (Pr) . . . . . max. 0,1 ppb  
 rhenium (Re) . . . . . max. 0,1 ppb  
 rhodium (Rh) . . . . . max. 0,5 ppb  
 rubidium (Rb) . . . . . max. 0,1 ppb  
 ruthenium (Ru) . . . . . max. 0,5 ppb  
 samarium (Sm) . . . . . max. 0,1 ppb  
 scandium (Sc) . . . . . max. 0,1 ppb  
 selenium (Se) . . . . . max. 1 ppb  
 silver (Ag) . . . . . max. 1 ppb  
 sodium (Na) . . . . . max. 1 ppb  
 strontium (Sr) . . . . . max. 0,5 ppb  
 tellurium (Te) . . . . . max. 0,5 ppb  
 terbium (Tb) . . . . . max. 0,1 ppb  
 thallium (Tl) . . . . . max. 0,1 ppb  
 thorium (Th) . . . . . max. 0,1 ppb  
 thulium (Tm) . . . . . max. 0,1 ppb  
 tin (Sn) . . . . . max. 0,5 ppb  
 titanium (Ti) . . . . . max. 0,5 ppb  
 tungsten (W) . . . . . max. 0,5 ppb  
 uranium (U) . . . . . max. 0,1 ppb  
 vanadium (V) . . . . . max. 0,5 ppb  
 ytterbium (Yb) . . . . . max. 0,1 ppb  
 yttrium (Y) . . . . . max. 0,1 ppb  
 zinc (Zn) . . . . . max. 1 ppb  
 zirconium (Zr) . . . . . max. 0,1 ppb

ART. NO.	VOLUME	CONTAINER
AC03580500	500 ml	0

AC0359 Acetic acid glacial, Ultratrace®, ppt-trace analysis grade

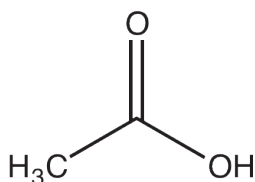


assay (acidimetric) . . . . .	min. 99 %	molybdenum (Mo) . . . . .	max. 10 ppt
aluminium (Al) . . . . .	max. 50 ppt	neodymium (Nd) . . . . .	max. 1 ppt
antimony (Sb) . . . . .	max. 50 ppt	nickel (Ni) . . . . .	max. 50 ppt
arsenic (As) . . . . .	max. 50 ppt	platinum (Pt) . . . . .	max. 50 ppt
barium (Ba) . . . . .	max. 10 ppt	potassium (K) . . . . .	max. 50 ppt
beryllium (Be) . . . . .	max. 10 ppt	praseodymium (Pr) . . . . .	max. 1 ppt
bismuth (Bi) . . . . .	max. 10 ppt	rhenium (Re) . . . . .	max. 10 ppt
cadmium (Cd) . . . . .	max. 10 ppt	rhodium (Rh) . . . . .	max. 50 ppt
calcium (Ca) . . . . .	max. 50 ppt	rubidium (Rb) . . . . .	max. 10 ppt
cerium (Ce) . . . . .	max. 10 ppt	ruthenium (Ru) . . . . .	max. 50 ppt
cesium (Cs) . . . . .	max. 10 ppt	samarium (Sm) . . . . .	max. 1 ppt
chromium (Cr) . . . . .	max. 10 ppt	scandium (Sc) . . . . .	max. 10 ppt
cobalt (Co) . . . . .	max. 10 ppt	silver (Ag) . . . . .	max. 50 ppt
copper (Cu) . . . . .	max. 10 ppt	sodium (Na) . . . . .	max. 100 ppt
dysprosium (Dy) . . . . .	max. 1 ppt	strontium (Sr) . . . . .	max. 10 ppt
erbium (Er) . . . . .	max. 1 ppt	tellurium (Te) . . . . .	max. 1 ppt
europium (Eu) . . . . .	max. 1 ppt	terbium (Tb) . . . . .	max. 1 ppt
gadolinium (Gd) . . . . .	max. 1 ppt	thallium (Tl) . . . . .	max. 10 ppt
gallium (Ga) . . . . .	max. 10 ppt	thorium (Th) . . . . .	max. 1 ppt
germanium (Ge) . . . . .	max. 10 ppt	thulium (Tm) . . . . .	max. 1 ppt
hafnium (Hf) . . . . .	max. 10 ppt	tin (Sn) . . . . .	max. 50 ppt
holmium (Ho) . . . . .	max. 1 ppt	titanium (Ti) . . . . .	max. 10 ppt
indium (In) . . . . .	max. 1 ppt	tungsten (W) . . . . .	max. 10 ppt
iron (Fe) . . . . .	max. 50 ppt	uranium (U) . . . . .	max. 1 ppt
lanthanum (La) . . . . .	max. 1 ppt	vanadium (V) . . . . .	max. 10 ppt
lead (Pb) . . . . .	max. 10 ppt	ytterbium (Yb) . . . . .	max. 1 ppt
lithium (Li) . . . . .	max. 10 ppt	yttrium (Y) . . . . .	max. 1 ppt
lutetium (Lu) . . . . .	max. 10 ppt	zinc (Zn) . . . . .	max. 50 ppt
magnesium (Mg) . . . . .	max. 50 ppt	zirconium (Zr) . . . . .	max. 10 ppt
manganese (Mn) . . . . .	max. 10 ppt		

ART. NO.	VOLUME	CONTAINER
AC03590250	250 ml	

## ACETIC ACID, 96%

AC0354 Acetic acid, solution 96% v/v, ExpertQ®, for analysis



- Synonyms: Methane carboxylic acid, Methylformic acid
- CH<sub>3</sub>COOH
- M = 60,05 g/mol
- CAS [64-19-7]
- EINECS-No.: 200-580-7
- Density: ~ 1,05 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 17 °C
- Boiling point: 117 °C
- Flash pt. 43 °C
- Ignition temp.: 485 °C
- Vapour pressure: (20 °C) 15,4 hPa
- Refraction index: (20 °C) 1,37
- LD 50 (oral, rat): 3310 mg/kg
- EC-Index-No.: 607-002-00-6
- ADR: 8 CF1 II UN 2789
- IMDG: 8 II UN 2789
- IATA/ICAO: 8 II UN 2789
- GHS-signal word: Danger
- GHS-H sentences: H314 - H226 - H312
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2915 21 00 00
- Applications: analytical chemistry, synthesis of organic products, acidifying agent, for pharmaceutical use, in food industry.

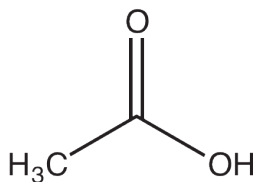
assay (acidimetric) . . . . .	min. 96 %
insoluble in water . . . . .	passes test
colour (Hazen) . . . . .	max. 10
chlorides (Cl) . . . . .	max. 0,00005 %
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,00005 %
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,00005 %
aluminium (Al) . . . . .	max. 0,05 ppm
arsenic (As) . . . . .	max 0,01 ppm
barium (Ba) . . . . .	max 0,01 ppm
beryllium (Be) . . . . .	max. 0,02 ppm
bismuth (Bi) . . . . .	max. 0,1 ppm
boron (B) . . . . .	max. 0,1 ppm
cadmium (Cd) . . . . .	max. 0,05 ppm
calcium (Ca) . . . . .	max. 0,2 ppm
chromium (Cr) . . . . .	max. 0,02 ppm
cobalt (Co) . . . . .	max 0,01 ppm
copper (Cu) . . . . .	max. 0,02 ppm
gallium (Ga) . . . . .	max. 0,05 ppm
germanium (Ge) . . . . .	max. 0,05 ppm
gold (Au) . . . . .	max 0,01 ppm
indium (In) . . . . .	max. 0,05 ppm
iron (Fe) . . . . .	max. 0,1 ppm
lead (Pb) . . . . .	max. 0,02 ppm
lithium (Li) . . . . .	max 0,01 ppm
magnesium (Mg) . . . . .	max. 0,05 ppm
manganese (Mn) . . . . .	max 0,01 ppm
molybdenum (Mo) . . . . .	max. 0,02 ppm
nickel (Ni) . . . . .	max. 0,02 ppm
platinum (Pt) . . . . .	max. 0,1 ppm
potassium (K) . . . . .	max. 0,1 ppm
silver (Ag) . . . . .	max 0,01 ppm
sodium (Na) . . . . .	max. 0,5 ppm
strontium (Sr) . . . . .	max 0,01 ppm
thallium (Tl) . . . . .	max. 0,05 ppm
tin (Sn) . . . . .	max. 0,05 ppm
titanium (Ti) . . . . .	max. 0,1 ppm
vanadium (V) . . . . .	max 0,01 ppm
zinc (Zn) . . . . .	max. 0,05 ppm
zirconium (Zr) . . . . .	max. 0,1 ppm
acetaldehyde (CH <sub>3</sub> CHO) . . . . .	max. 0,0002 %
acetic anhydride (CH <sub>3</sub> CO) <sub>2</sub> O . . . . .	max. 0,01 %
substances reducing KMnO <sub>4</sub> . . . . .	passes test
substances reducing K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> . . . . .	passes test
substances reducing iodine . . . . .	negative reaction
residue on evaporation . . . . .	max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC03541000	1 l	
AC03542500	2,5 l	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## ACETIC ACID, SOLUTION 80%

AC0351 Acetic acid, solution 80% v/v, EssentQ®



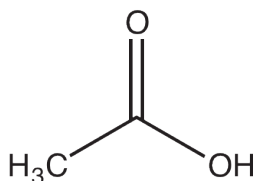
- Synonyms: Methane carboxylic acid solution, Methylformic acid solution
- CH<sub>3</sub>COOH
- M = 60,05 g/mol
- CAS [64-19-7]
- EINECS-No.: 200-580-7
- Density: 1,07 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 59 °C
- LD 50 (oral, rat): 3310 mg/kg
- EC-Index-No.: 607-002-00-6
- ADR: 8 CF1 II UN 2789
- IMDG: 8 II UN 2789
- IATA/ICAO: 8 II UN 2789
- GHS-signal word: Danger
- GHS-H sentences: H314 - H226 - H312
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2915 21 00 00
- Applications: analytical chemistry, synthesis of organic products, acidifying agent, for pharmaceutical use, in food industry.

assay (acidimetric) . . . . . min. 80 %  
chlorides (Cl) . . . . . max. 0,0002 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %  
aluminium (Al) . . . . . max. 0,5 ppm  
arsenic (As) . . . . . max. 2 ppm  
iron (Fe) . . . . . max. 5 ppm  
heavy metals (as Pb) . . . . . max. 5 ppm  
zinc (Zn) . . . . . max. 5 ppm  
substances reducing KMnO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
AC03511000	1 l	0
AC0351005P	5 l	P

## ACETIC ACID, SOLUTION 60%

AC0349 Acetic acid, solution 60% v/v, EssentQ®



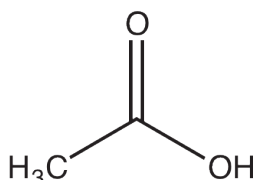
- Synonyms: Methane carboxylic acid solution, Methylformic acid solution
- CH<sub>3</sub>COOH
- M = 60,05 g/mol
- CAS [64-19-7]
- EINECS-No.: 200-580-7
- Flash pt. 78 °C
- LD 50 (oral, rat): 3310 mg/kg (pure substance)
- EC-Index-No.: 607-002-00-6
- ADR: 8 C3 II UN 2790
- IMDG: 8 II UN 2790
- IATA/ICAO: 8 II UN 2790
- GHS-signal word: Danger
- GHS-H sentences: H314 - H226 - H312
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2915 21 00 00
- Applications: analytical chemistry, synthesis of organic products, acidifying agent, for pharmaceutical use, in food industry.

assay (acidimetric) . . . . . min. 60 %  
chlorides (Cl) . . . . . max. 0,0002 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %  
aluminium (Al) . . . . . max. 0,5 ppm  
arsenic (As) . . . . . max. 2 ppm  
copper (Cu) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 5 ppm  
lead (Pb) . . . . . max. 5 ppm  
zinc (Zn) . . . . . max. 5 ppm  
substances reducing KMnO<sub>4</sub> . . . . . max. 0,005 %  
residue on evaporation . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
AC03491000	1 l	0
AC03492500	2,5 l	0

## ACETIC ACID, VOLUMETRIC SOLUTIONS

AC0365 Acetic acid, solution 1 mol/l (1 N)



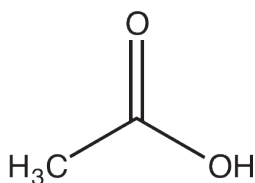
- CH<sub>3</sub>COOH
- M = 60,05 g/mol
- CAS [64-19-7]
- EINECS-No.: 200-580-7
- Density: 1,01 g/cm<sup>3</sup>
- EC-Index-No.: 607-002-00-6
- Tariff number: 2915 21 00 00
- Applications: analytical chemistry, acidifying agent, titrant in volumetric analysis.
- Appearance: Colourless clear liquid

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,060 g CH<sub>3</sub>COOH  
This volumetric solution was checked by means of potentiometric methods using a sodium hydroxide standard solution, that was also checked against Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC03651000	1 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## AC0364 Acetic acid, solution 0,1 mol/l (0,1 N)

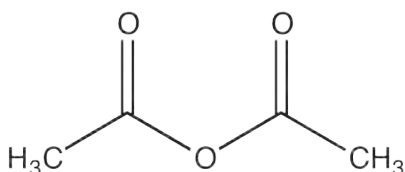


- $\text{CH}_3\text{COOH}$
- $M = 60,05 \text{ g/mol}$
- CAS [64-19-7]
- EINECS-No.: 200-580-7
- Density:  $\sim 1,002 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 607-002-00-6
- Tariff number: 2915 21 00 00
- Applications: analytical chemistry, acidifying agent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty  $\pm 0,001$   
1 ml = 0,006 g  $\text{CH}_3\text{COOH}$   
This volumetric solution was checked using a sodium hydroxide standard by means of potentiometric methods solution, that was also checked against Scharlab's potassium hydrogen phthalate volumetric standard. Scharlab's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC03641000	1 l	

## ACETIC ANHYDRIDE



- Synonyms: Acetyl oxide
- $(\text{CH}_3\text{CO})_2\text{O}$
- $M = 102,09 \text{ g/mol}$
- CAS [108-24-7]
- EINECS-No.: 203-564-8
- Density:  $1,08 \text{ g/cm}^3$
- Solub. in water: (20 °C): hydrolysis reaction
- Melting point:  $-73 \text{ °C}$
- Boiling point:  $138 - 140,5 \text{ °C}$
- Flash pt.  $49 \text{ °C}$
- Ignition temp.:  $330 \text{ °C}$
- Vapour pressure: (20 °C) 4hPa
- Refraction index: (n 20 °C/D) 1,3903





- LD 50 (oral, rat): 1780 mg/kg
- EC-Index-No.: 607-008-00-9
- ADR: 8 CF1 II UN 1715
- IMDG: 8 II UN 1715
- IATA/ICAO: 8 II UN 1715
- GHS-signal word: Danger
- GHS-H sentences: H314 - H226 - H302 - H332
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2915 24 00 00
- Applications: analytical chemistry, synthesis of organic products, acetylating agent.

## AN0154 Acetic anhydride, EssentQ®



assay (G.C.) . . . . .min. 98 %  
identity (IR-spectrum) . . . . .passes test  
density (20°/4°) . . . . . 1,079 - 1,082  
chlorides (Cl) . . . . .max. 0,001 %  
phosphates (as  $\text{PO}_4$ ) . . . . .max. 0,001 %  
sulfates ( $\text{SO}_4$ ) . . . . .max. 0,001 %  
copper (Cu) . . . . .max. 0,001 %

heavy metals (as Pb) . . . . .max. 0,001 %  
iron (Fe) . . . . .max. 0,001 %  
lead (Pb) . . . . .max. 0,001 %  
nickel (Ni) . . . . .max. 0,001 %  
residue on evaporation . . . . .max. 0,005 %




ART. NO.	VOLUME	CONTAINER
AN01541000	1 l	
AN01542500	2,5 l	
AN0154005P	5 l	
AN0154025A	25 l	

## AN0155 Acetic anhydride, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

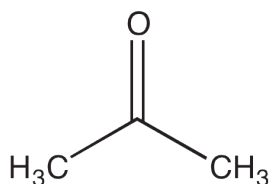


assay (G.C.) . . . . .min. 99 %  
identity (IR-spectrum) . . . . .passes test  
density (20°/4°) . . . . . 1,079 - 1,082  
boiling point . . . . . 136 - 142 °C  
colour (Hazen) . . . . .max. 10  
appearance . . . . .clear  
chlorides (Cl) . . . . .max. 0,0002 %  
phosphates (as  $\text{PO}_4$ ) . . . . .max. 0,0005 %  
sulfates ( $\text{SO}_4$ ) . . . . .max. 0,0005 %  
aluminium (Al) . . . . .max. 0,5 ppm  
barium (Ba) . . . . .max. 0,1 ppm  
boron (B) . . . . .max. 0,02 ppm  
cadmium (Cd) . . . . .max. 0,05 ppm  
calcium (Ca) . . . . .max. 0,5 ppm

chromium (Cr) . . . . .max. 0,05 ppm  
cobalt (Co) . . . . .max. 0,02 ppm  
copper (Cu) . . . . .max. 0,02 ppm  
heavy metals (as Pb) . . . . .max. 2 ppm  
iron (Fe) . . . . .max. 0,1 ppm  
lead (Pb) . . . . .max. 0,1 ppm  
magnesium (Mg) . . . . .max. 0,1 ppm  
manganese (Mn) . . . . .max. 0,02 ppm  
nickel (Ni) . . . . .max. 0,02 ppm  
tin (Sn) . . . . .max. 0,1 ppm  
zinc (Zn) . . . . .max. 0,1 ppm  
substances darkened by  $\text{H}_2\text{SO}_4$  . . . . .passes test  
substances reducing  $\text{KMnO}_4$  . . . . .passes test  
residue on evaporation . . . . .max. 0,002 %

ART. NO.	VOLUME	CONTAINER
AN01551000	1 l	
AN01552500	2,5 l	
AN0155005P	5 l	

## ACETONE



- Synonyms: Dimethyl ketone, 2-Propanone
- $\text{C}_3\text{H}_6\text{O}$
- $M = 58,08 \text{ g/mol}$
- CAS [67-64-1]
- EINECS-No.: 200-662-2
- Density:  $0,79 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $-95 \text{ °C}$
- Boiling point:  $56 \text{ °C}$
- Flash pt.  $< -20 \text{ °C}$
- Ignition temp.:  $540 \text{ °C}$
- Vapour pressure: (20 °C) 233 hPa
- Refraction index: (n 20 °C/D) 1,3588

- Dielectric const.: (25°C) 20,7
- LD 50 (oral, rat): 5800 mg/kg
- EC-Index-No.: 606-001-00-8
- ADR: 3 F1 II UN 1090
- IMDG: 3 II UN 1090
- IATA/ICAO: 3 II UN 1090
- GHS-signal word: Danger
- GHS-H sentences: H225 - H319 - H336 - EUH066
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2914 11 00 00
- Applications: solvents, analytical chemistry, synthesis of organic products, photography.

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## AC0306 Acetone, EssentQ®



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/20°) . . . . . 0,790 - 0,793  
residue on evaporation . . . . . max. 0,002 %  
water (K.F.) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
AC03061000	1 l	
AC03062500	2,5 l	
AC0306005P	5 l	
AC0306007E	7 l	

ART. NO.	VOLUME	CONTAINER
AC0306025L	25 l	
AC0306025P	25 l	
AC0306025S	25 l	
AC0306030S	30 l	

## AC0312 Acetone, extra pure, Pharmpur®, Ph Eur, BP, NF



assay (G.C.) . . . . . min. 99,0 %  
identification . . . . . passes test  
density (20°/20°) . . . . . 0,790 - 0,793  
density (25°/25°) . . . . . max. 0,789  
appearance of solution . . . . . clear and colourless  
acidity or alkalinity . . . . . passes test  
insoluble in water . . . . . passes test  
related substances . . . . . passes test

reducing substances . . . . . passes test  
residue on evaporation . . . . . max. 0,004 %  
water (K.F.) . . . . . max. 0,3 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC03121000	1 l	
AC03122500	2,5 l	
AC0312005P	5 l	
AC0312010C	10 l	
AC0312025P	25 l	

## AC0314 Acetone, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/20°) . . . . . 0,790 - 0,793  
appearance of solution . . . . . clear and colourless  
colour (Hazen) . . . . . max. 10  
solubility in water . . . . . passes test  
insoluble in water . . . . . passes test  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
acidity or alkalinity . . . . . passes test  
chlorides (Cl) . . . . . max. 0,1 ppm  
nitrates (NO<sub>3</sub>) . . . . . max. 0,1 ppm  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,1 ppm  
sulfates (SO<sub>4</sub>) . . . . . max. 0,1 ppm  
aluminium (Al) . . . . . max. 0,5 ppm  
antimony (Sb) . . . . . max. 0,02 ppm  
arsenic (As) . . . . . max. 0,02 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
beryllium (Be) . . . . . max. 0,02 ppm  
bismuth (Bi) . . . . . max. 0,02 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm

gallium (Ga) . . . . . max. 0,02 ppm  
germanium (Ge) . . . . . max. 0,02 ppm  
gold (Au) . . . . . max. 0,02 ppm  
indium (In) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
lithium (Li) . . . . . max. 0,05 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
molybdenum (Mo) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
silver (Ag) . . . . . max. 0,02 ppm  
thallium (Tl) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
titanium (Ti) . . . . . max. 0,02 ppm  
vanadium (V) . . . . . max. 0,02 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
zirconium (Zr) . . . . . max. 0,02 ppm  
aldehydes (as HCHO) . . . . . max. 0,001 %  
related substances . . . . . passes test  
alcohol diacetone (G.C.) . . . . . max. 0,02 %  
ethanol (G.C.) . . . . . max. 0,01 %  
reducing substances . . . . . passes test  
substances reducing KMnO<sub>4</sub> . . . . . max. 3 ppm  
residue on evaporation . . . . . max. 5 ppm  
water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC03141000	1 l	
AC03142500	2,5 l	
AC0314005P	5 l	
AC0314007E	7 l	
AC0314025A	25 l	
AC0314025P	25 l	
AC0314025S	25 l	
AC0314025B	25 l	
AC0314030S	30 l	
AC0314200L	200 l	

## AC0316 Acetone, dried (max. 0,01% H<sub>2</sub>O), ExpertQ®, for analysis



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,787 - 0,791  
appearance of solution . . . . . passes test  
colour (Hazen) . . . . . max. 10  
solubility in water . . . . . passes test  
insoluble in water . . . . . passes test  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
chlorides (Cl) . . . . . max. 0,00001 %  
nitrates (NO<sub>3</sub>) . . . . . max. 0,00001 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,00001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,00001 %  
aluminium (Al) . . . . . max. 0,5 ppm  
antimony (Sb) . . . . . max. 0,02 ppm  
arsenic (As) . . . . . max. 0,02 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
beryllium (Be) . . . . . max. 0,02 ppm  
bismuth (Bi) . . . . . max. 0,02 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
gallium (Ga) . . . . . max. 0,02 ppm

germanium (Ge) . . . . . max. 0,02 ppm  
gold (Au) . . . . . max. 0,02 ppm  
indium (In) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
lithium (Li) . . . . . max. 0,05 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
molybdenum (Mo) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
silver (Ag) . . . . . max. 0,02 ppm  
thallium (Tl) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
titanium (Ti) . . . . . max. 0,02 ppm  
vanadium (V) . . . . . max. 0,02 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
zirconium (Zr) . . . . . max. 0,02 ppm  
aldehydes (as HCHO) . . . . . max. 0,001 %  
cyclohexane (G.C.) . . . . . max. 0,1 %  
alcohol diacetone (G.C.) . . . . . max. 0,02 %  
ethanol (G.C.) . . . . . max. 0,01 %  
methanol (G.C.) . . . . . max. 0,05 %  
2-propanol (G.C.) . . . . . max. 0,05 %  
substances reducing KMnO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AC03161000	1 l	

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Y

Z

## AC0310 Acetone, Multisolvant® HPLC grade ACS ISO UV-VIS



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,787 - 0,791  
 appearance of solution . . . . . passes test  
 colour (Hazen) . . . . . max. 10  
 solubility in water . . . . . passes test  
 insoluble in water . . . . . passes test  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 chlorides (Cl) . . . . . max. 0,00001 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,00001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00001 %  
 aluminium (Al) . . . . . max. 0,1 ppm  
 antimony (Sb) . . . . . max. 0,02 ppm  
 arsenic (As) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,01 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,02 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,3 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,01 ppm  
 gallium (Ga) . . . . . max. 0,02 ppm  
 germanium (Ge) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max. 0,02 ppm  
 indium (In) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,02 ppm  
 lead (Pb) . . . . . max. 0,01 ppm  
 lithium (Li) . . . . . max. 0,05 ppm

magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,01 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,01 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 aldehydes (as HCHO) . . . . . max. 0,002 %  
 cyclohexane (G.C.) . . . . . max. 0,1 %  
 alcohol/diacetone (G.C.) . . . . . max. 0,02 %  
 ethanol (G.C.) . . . . . max. 0,01 %  
 methanol (G.C.) . . . . . max. 0,05 %  
 2-propanol (G.C.) . . . . . max. 0,05 %  
 reducing substances . . . . . passes test  
 residue on evaporation . . . . . max. 0,0002 %  
 water (K.F.) . . . . . max. 0,2 %  
 liquid chromatography suitability  
 absorbance . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A(AU)  
 330 nm . . . . . 10 % 1,000 AU  
 335 nm . . . . . 50 % 0,301 AU  
 339 nm . . . . . 80 % 0,097 AU  
 342 nm . . . . . 90 % 0,046 AU  
 350 nm . . . . . 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
AC03101000	1 l	0
AC03102500	2,5 l	0
AC03104000	4 l	0
AC0310007E	7 l	0
AC0310025S	25 l	0
AC0310030S	30 l	0

## AC0308 Acetone, for GC residue analysis



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,787 - 0,791  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,2 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 µg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
AC03084000	4 l	0
AC03081000	1 l	0
AC03082500	2,5 l	0
AC0308007E	7 l	0

## AC0309 Acetone, GC ultra-trace analysis grade



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,787 - 0,791  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,2 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 µg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl. Suitable for highly volatile halogenated hydrocarbons trace analysis. ECD, from dichloromethane to 1,2,4-trichlorobenzene, no peaks are obtained greater than 1 ng/ml as tetrachloromethane. Suitable for pesticide and polycyclic aromatic hydrocarbons residue analysis. FID, from 1-octanol to 1-tetradecanol, no peaks are obtained greater than 5 ng/ml as 1-tetradecanol. No peaks are obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
AC03091000	1 l	0
AC03092500	2,5 l	0

## AC0319 Acetone, 99,8%, anhydrous (max. 0,005% H<sub>2</sub>O)



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,787 - 0,791  
 appearance of solution . . . . . passes test  
 colour (Hazen) . . . . . max. 10  
 solubility in water . . . . . passes test  
 insoluble in water . . . . . passes test  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 chlorides (Cl) . . . . . max. 0,00001 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,00001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00001 %  
 aluminium (Al) . . . . . max. 0,5 ppm  
 antimony (Sb) . . . . . max. 0,02 ppm  
 arsenic (As) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,02 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 gallium (Ga) . . . . . max. 0,02 ppm  
 germanium (Ge) . . . . . max. 0,02 ppm

gold (Au) . . . . . max. 0,02 ppm  
 indium (In) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 lithium (Li) . . . . . max. 0,05 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 aldehydes (as HCHO) . . . . . max. 0,002 %  
 cyclohexane (G.C.) . . . . . max. 0,1 %  
 alcohol/acetone (G.C.) . . . . . max. 0,02 %  
 ethanol (G.C.) . . . . . max. 0,01 %  
 methanol (G.C.) . . . . . max. 0,05 %  
 2-propanol (G.C.) . . . . . max. 0,05 %  
 heavy metals (as Pb) . . . . . max. 2 ppm  
 reducing substances . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AC03190500	500 ml	
AC03191000	1 l	

## AC0293 Acetone, GC-MS



assay (G.C.) . . . . . min. 99,8 %  
 colour (Hazen) . . . . . max. 10  
 identity (IR-spectrum) . . . . . passes test  
 residue on evaporation . . . . . max. 3 ppm  
 water (K.F.) . . . . . max. 0,2 %

GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n-tetradecane standard) . . . . . max. 3,0 ng/ml (ppb)  
 Suitable for residue analysis

ART. NO.	VOLUME	CONTAINER
AC02931000	1 l	
AC02932500	2,5 l	

## AC0320 Acetone, VLSI grade



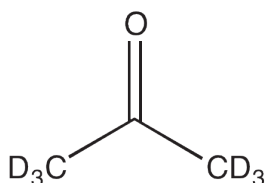
assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,787 - 0,791  
 resistivity . . . . . min. 5 MΩ·cm  
 acidity . . . . . max. 0,0003 meq/g  
 alkalinity . . . . . max. 0,0006 meq/g  
 chlorides (Cl) . . . . . max. 0,0001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
 copper (Cu) . . . . . max 0,01 ppm  
 iron (Fe) . . . . . max 0,01 ppm  
 lead (Pb) . . . . . max 0,01 ppm

magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max 0,01 ppm  
 nickel (Ni) . . . . . max 0,01 ppm  
 zinc (Zn) . . . . . max 0,01 ppm  
 aldehydes (as HCHO) . . . . . max. 0,0002 %  
 ethanol (G.C.) . . . . . max. 0,01 %  
 methanol (G.C.) . . . . . max. 0,05 %  
 2-propanol (G.C.) . . . . . max. 0,05 %  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC0320005P	5 l	

## ACETONE-D<sub>6</sub>

### AC0322 Acetone-d<sub>6</sub>, deuteration degree min. 99,8%, NMR spectroscopy grade, Spectrosol®

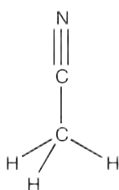


- Synonyms: Hexadeuteroacetone
- C<sub>3</sub>D<sub>6</sub>O
- M = 64,12 g/mol
- CAS [666-52-4]
- EINECS-No.: 211-563-9
- Density: 0,87 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -95,4 °C
- Boiling point: 56 °C
- Flash pt. < -20 °C
- Ignition temp.: 540 °C
- Vapour pressure: (20 °C) 233 hPa
- Dielectric const.: (25 °C) 20,7
- LD 50 (oral, rat): 5800 mg/kg
- EC-Index-No.: 606-001-00-8
- ADR: 3 F1 II UN 1090
- IMDG: 3 II UN 1090
- IATA/ICAO: 3 II UN 1090
- GHS-signal word: Danger
- GHS-H sentences: H225 - H319 - H336 - EUH066
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2845 90 10 00
- Applications: for nuclear magnetic resonance spectroscopy.

deuteration degree . . . . . min. 99,8 %  
 water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) . . . . . max. 0,03 %  
 performance test (NMR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AC03220010	10 ml	

## ACETONITRILE



- Synonyms: Methyl cyanide, Cyanomethane
- $\text{CH}_3\text{CN}$
- $M = 41,05 \text{ g/mol}$
- CAS [75-05-8]
- EINECS-No.: 200-835-2
- Density:  $0,786 \text{ g/cm}^3$
- Solub. in water: ( $20^\circ\text{C}$ ): miscible
- Melting point:  $-45,7^\circ\text{C}$
- Boiling point:  $81,6^\circ\text{C}$
- Flash pt.  $2^\circ\text{C}$
- Ignition temp.:  $524^\circ\text{C}$
- Vapour pressure: ( $20^\circ\text{C}$ )  $97 \text{ hPa}$
- Refraction index: ( $n_{20^\circ\text{C}}$ )  $1,3442$
- Dielectric const.: ( $20^\circ\text{C}$ )  $37,5$
- LD 50 (oral, rat):  $2730 - 3800 \text{ mg/kg}$
- EC-Index-No.: 608-001-00-3
- ADR: 3 F1 II UN 1648
- IMDG: 3 II UN 1648
- IATA/ICAO: 3 II UN 1648
- GHS-signal word: Danger
- GHS-H sentences: H225 - H302 - H312 - H332 - H319
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P305 + P351 + P338 - P501a
- Tariff number: 2926 90 95 90
- Applications: chromatography, synthesis of organic products, solvents.

### AC0333 Acetonitrile, Multisolvent® HPLC grade ACS UV-VIS, Reag. Ph Eur



assay (G.C.) ..... min. 99,9 %  
 identity (IR-spectrum) ..... passes test  
 density ( $20^\circ/4^\circ$ ) ..... 0,779 - 0,783  
 colour (Hazen) ..... max. 10  
 appearance ..... clear  
 acidity ..... max. 0,0002 meq/g  
 alkalinity ..... max. 0,0001 meq/g  
 cyanides (CN) ..... max. 0,005 %  
 aluminium (Al) ..... max. 0,1 ppm  
 barium (Ba) ..... max 0,01 ppm  
 boron (B) ..... max. 0,02 ppm  
 cadmium (Cd) ..... max 0,01 ppm  
 calcium (Ca) ..... max. 0,3 ppm  
 chromium (Cr) ..... max. 0,02 ppm  
 cobalt (Co) ..... max. 0,02 ppm  
 copper (Cu) ..... max. 0,02 ppm  
 iron (Fe) ..... max. 0,02 ppm

lead (Pb) ..... max. 0,1 ppm  
 magnesium (Mg) ..... max. 0,1 ppm  
 manganese (Mn) ..... max 0,01 ppm  
 nickel (Ni) ..... max. 0,02 ppm  
 tin (Sn) ..... max. 0,1 ppm  
 zinc (Zn) ..... max 0,01 ppm  
 residue on evaporation ..... max. 0,0002 %  
 water (K.F.) ..... max. 0,03 %  
 liquid chromatography suitability  
 absorbance ..... passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 195 nm ..... 70 % 0,155 AU  
 200 nm ..... 90 % 0,046 AU  
 230 nm ..... 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22  $\mu\text{m}$

ART. NO.	VOLUME	CONTAINER
AC03331000	1 l	0
AC03332500	2,5 l	0
AC03334000	4 l	0
AC0333007E	7 l	0
AC0333020S	20 l	0
AC0333025S	25 l	0
AC0333185E	185 l	0

### AC0378 Acetonitrile, HPLC gradient grade



assay (G.C.) ..... min. 99,9 %  
 identity (IR-spectrum) ..... passes test  
 density ( $20^\circ/4^\circ$ ) ..... 0,779 - 0,783  
 acidity ..... max. 0,0002 meq/g  
 alkalinity ..... max. 0,0001 meq/g  
 residue on evaporation ..... max. 0,0005 %  
 water (K.F.) ..... max. 0,02 %  
 gradient grade (210 nm)  
 maximum peak absorbance: 0,003 AU  
 maximum background absorbance: 0,015 AU  
 gradient grade (254 nm)

maximum peak absorbance: 0,0005 AU  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 195 nm ..... 76 % 0,12 AU  
 200 nm ..... 93 % 0,03 AU  
 230 nm ..... 99 % 0,004 AU  
 235 nm ..... 99 % 0,004 AU  
 250 nm ..... 99 % 0,004 AU  
 Microfiltered through membranes of pore diameter  
 0,22  $\mu\text{m}$

ART. NO.	VOLUME	CONTAINER
AC03782500	2,5 l	0
AC03784000	4 l	0

### AC0329 Acetonitrile, gradient 240nm/ far UV HPLC grade



assay (G.C.) ..... min. 99,9 %  
 identity (IR-spectrum) ..... passes test  
 density ( $20^\circ/4^\circ$ ) ..... 0,779 - 0,783  
 acidity ..... max. 0,0002 meq/g  
 alkalinity ..... max. 0,0001 meq/g  
 residue on evaporation ..... max. 0,0002 %  
 water (K.F.) ..... max. 0,02 %  
 gradient grade (240 nm)  
 maximum background absorbance: 0,01 AU  
 maximum peak absorbance: 0,0015 AU min.

transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 200 nm ..... 90 % 0,046 AU  
 205 nm ..... 92 % 0,036 AU  
 210 nm ..... 95 % 0,022 AU  
 220 nm ..... 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22  $\mu\text{m}$

ART. NO.	VOLUME	CONTAINER
AC03291000	1 l	0
AC03292500	2,5 l	0
AC03294000	4 l	0
AC0329007E	7 l	0
AC0329025S	25 l	0
AC0329030S	30 l	0
AC0329100S	100 l	0
AC0329185E	185 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z



## AC0331 Acetonitrile, supragradient HPLC grade



assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,779 - 0,783  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0001 meq/g  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,01 %  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 195 nm . . . . . 80 % 0,097 AU  
 200 nm . . . . . 95 % 0,022 AU  
 210 nm . . . . . 97 % 0,013 AU  
 220 nm . . . . . 98 % 0,009 AU

gradient grade (210 nm)  
 maximum peak absorbance: 0,0015 AU  
 maximum background absorbance: 0,01 AU  
 Suitable for liquid chromatography at 254 nm  
 fluorescence analysis: maximum absorbance: 1 ppb  
 as quinine (in 0,1 N sulfuric acid), for the spectra  
 recorded at the following conditions: EX wavelength  
 between 220 and 450 EM wavelength between 250  
 and 550  
 Microfiltered through membranes of pore diameter  
 0,22 µm  
 Suitable for UPLC

ART. NO.	VOLUME	CONTAINER
AC03311000	1 l	0
AC03312500	2,5 l	0
AC03314000	4 l	0
AC0331007E	7 l	0
AC0331025S	25 l	0
AC0331030S	30 l	0
AC0331185E	185 l	0
AC0331200E	200 l	0

## AC0371 Acetonitrile, LC-MS



assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,779 - 0,783  
 acidity . . . . . max. 0,0002 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,1 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,1 ppm  
 sodium (Na) . . . . . max. 0,1 ppm

tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,01 %  
 suitability for use in LC-MS . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 195 nm . . . . . 80 % 0,097 AU  
 200 nm . . . . . 95 % 0,022 AU  
 210 nm . . . . . 97 % 0,013 AU  
 220 nm . . . . . 98 % 0,009 AU  
 230 nm . . . . . 99 % 0,004 AU  
 gradient grade (210 nm)  
 maximum background absorbance: 0,012 AU  
 maximum peak absorbance: 0,001 AU  
 gradient grade (254 nm)  
 maximum peak absorbance: 0,0005 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
AC03711000	1 l	0
AC03712500	2,5 l	0

## AC0391 Acetonitrile, UHPLC-MS



assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,779 - 0,783  
 acidity . . . . . max. 0,0002 meq/g  
 aluminium (Al) . . . . . max. 0,05 ppm  
 barium (Ba) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,02 ppm  
 calcium (Ca) . . . . . max. 0,1 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,02 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,02 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,1 ppm  
 sodium (Na) . . . . . max. 0,1 ppm  
 tin (Sn) . . . . . max. 0,1 ppm

zinc (Zn) . . . . . max. 0,1 ppm  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,01 %  
 suitability for use in UHPLC-MS . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 195 nm . . . . . 80 % 0,097 AU  
 200 nm . . . . . 95 % 0,022 AU  
 210 nm . . . . . 97 % 0,013 AU  
 220 nm . . . . . 98 % 0,009 AU  
 230 nm . . . . . 99 % 0,004 AU  
 gradient grade (210 nm)  
 maximum background absorbance: 0,012 AU  
 maximum peak absorbance: 0,001 AU  
 gradient grade (254 nm)  
 maximum peak absorbance: 0,0002 AU  
 UHPLC-MS test ESI+ . . . . . max. 5 ppb Reserpin  
 UHPLC-MS test ESI- . . . . . max. 20 ppb Digoxin  
 Microfiltered through membranes of pore diameter  
 0,1 µm

ART. NO.	VOLUME	CONTAINER
AC03911000	1 l	0
AC03912500	2,5 l	0

## AC0338 Acetonitrile, for GC residue analysis, suitable for QuEChERS



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,779 - 0,783  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,02 %  
 Suitable for organohalogenated pesticide and

dioxins, furans and PCBs residue analysis. ECD,  
 from 1,2,4-trichlorobenzene to decachlorobiphenyl,  
 no peaks are obtained greater than 3 pg/ml as  
 lindane. No peaks are obtained in vicinity of  
 2,4,5-trichlorobiphenyl.  
 Suitable for QuEChERS

ART. NO.	VOLUME	CONTAINER
AC03381000	1 l	0
AC03382500	2,5 l	0

## AC0366 Acetonitrile, GC-MS



assay (G.C.) . . . . . min. 99,8 %  
 colour (Hazen) . . . . . max. 10  
 identity (IR-spectrum) . . . . . passes test  
 residue on evaporation . . . . . max. 3 ppm  
 water (K.F.) . . . . . max. 0,05 %

GC/MSD (retention range n-undecane to  
 n-tetracontane, scanning area 30 - 600 amu, individual  
 signals  
 (n- tetradecane standard)) . . . . . max. 3,0 ng/ml (ppb)  
 Suitable for residue analysis

ART. NO.	VOLUME	CONTAINER
AC03661000	1 l	0
AC03662500	2,5 l	0

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

80

## AC0368 Acetonitrile, standard substance for GC



assay .....99,9%  
 over ramp .....50°C, 10°C/min 200°C  
 identity ..... IR

ART. NO.	VOLUME	CONTAINER
AC03680005	5 ml	Ⓜ

## AC0326 Acetonitrile, 99,9%, anhydrous (max. 0,001% H<sub>2</sub>O)



assay (G.C.) ..... min. 99,9 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,779 - 0,783  
 appearance ..... clear  
 acidity ..... max. 0,0002 meq/g  
 alkalinity ..... max. 0,0001 meq/g  
 colour (Hazen) ..... max. 10  
 cyanides (CN) ..... max. 0,005 %  
 aluminium (Al) ..... max. 0,5 ppm  
 barium (Ba) ..... max. 0,1 ppm  
 boron (B) ..... max. 0,02 ppm  
 cadmium (Cd) ..... max. 0,05 ppm  
 calcium (Ca) ..... max. 0,5 ppm

chromium (Cr) ..... max. 0,02 ppm  
 cobalt (Co) ..... max. 0,02 ppm  
 copper (Cu) ..... max. 0,02 ppm  
 iron (Fe) ..... max. 0,1 ppm  
 lead (Pb) ..... max. 0,1 ppm  
 magnesium (Mg) ..... max. 0,1 ppm  
 manganese (Mn) ..... max. 0,02 ppm  
 nickel (Ni) ..... max. 0,02 ppm  
 tin (Sn) ..... max. 0,1 ppm  
 zinc (Zn) ..... max. 0,1 ppm  
 reaction to H<sub>2</sub>SO<sub>4</sub> ..... passes test  
 residue on evaporation ..... max. 0,0005 %  
 water (K.F.) ..... max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AC03260100	100 ml	Ⓜ
AC03260500	500 ml	Ⓜ
AC03261000	1 l	Ⓜ

## AC0370 Acetonitrile, 99,7%, anhydrous (max. 0,005% H<sub>2</sub>O), with molecular sieves



assay (G.C.) ..... min. 99,7 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,779 - 0,783

acidity ..... max. 0,0002 meq/g  
 alkalinity ..... max. 0,0001 meq/g  
 water (K.F.) ..... max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AC03701000	1 l	Ⓜ

## AC0336 Acetonitrile, max. 0,003% H<sub>2</sub>O, DNA synthesis grade



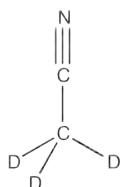
assay (G.C.) ..... min. 99,8 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,779 - 0,783  
 acidity ..... max. 0,001 meq/g  
 alkalinity ..... max. 0,0002 meq/g  
 residue on evaporation ..... max. 0,0001 %  
 water (K.F.) ..... max. 0,003 %

minimum transmission in a 1,0 cm cell at  
 wavelength transmission  
 200 nm ..... .88 %  
 225 nm ..... .98 %  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
AC03362500	2,5 l	Ⓜ

## ACETONITRILE-D<sub>3</sub>

### AC0332 Acetonitrile-d<sub>3</sub>, deuteration degree min. 99,8%, NMR spectroscopy grade, Spectrosol®



- Synonyms: Trideuteroacetonitrile
- CD<sub>3</sub>CN
- M = 44,05 g/mol
- CAS [2206-26-0]
- EINECS-No.: 218-616-5
- Density: 0,84 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -46 °C
- Boiling point: 79 °C
- Flash pt. 5 °C
- Ignition temp.: 525 °C
- Vapour pressure: (20 °C) 97 hPa
- LD 50 (oral, rat): 2730 - 3800 mg/kg
- ADR: 3 F1 II UN 1648
- IMDG: 3 II UN 1648
- IATA/ICAO: 3 II UN 1648
- GHS-signal word: Danger
- GHS-H sentences: H225 - H302 - H312 - H332 - H319
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P305 + P351 + P338 - P501a
- Tariff number: 2845 90 10 00
- Applications: for nuclear magnetic resonance spectroscopy.

deuteration degree ..... min. 99,8 %  
 water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) ..... max. 0,03 %  
 performance test (NMR-spectrum) ..... passes test

ART. NO.	VOLUME	CONTAINER
AC03320010	10 ml	Ⓜ

**ACETONITRILE WITH 0,1% ACETIC ACID**

AC0374 Acetonitrile with 0,1% acetic acid, LC-MS 

- Flash pt. 6 °C
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225 - H312 - H332 - H319
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P305 + P351 + P338 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, chromatography.

acetic acid content (v/v) . . . . . 0,093 - 0,107 %  
 calcium (Ca) . . . . .max. 0,5 ppm  
 magnesium (Mg) . . . . .max. 0,5 ppm  
 potassium (K) . . . . .max. 0,5 ppm  
 sodium (Na) . . . . .max. 2 ppm  
 suitability for use in LC-MS . . . . .passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 210 nm. . . . .20 % 0,699 AU  
 230 nm . . . . .50 % 0,301 AU  
 254 nm. . . . .90 % 0,046 AU

Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
AC03741000	1 l	0

**ACETONITRILE WITH 0,1% FORMIC ACID**

AC0373 Acetonitrile with 0,1% formic acid, LC-MS 

- Density: 0,78 g/cm³
- Flash pt. 2 °C
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225 - H312 - H332 - H319
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P305 + P351 + P338 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, chromatography.

formic acid content (v/v) . . . . . 0,093 - 0,107 %  
 calcium (Ca) . . . . .max. 0,5 ppm  
 magnesium (Mg) . . . . .max. 0,5 ppm  
 potassium (K) . . . . .max. 0,5 ppm  
 sodium (Na) . . . . .max. 2 ppm  
 suitability for use in LC-MS . . . . .passes test  
 gradient grade (254 nm)  
 maximum peak absorbance: 0,05 AU

min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 210 nm. . . . .5 % 1,301 AU  
 230 nm. . . . .15 % 0,824 AU  
 254 nm. . . . .90 % 0,046 AU  
 Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
AC03731000	1 l	0

**ACETONITRILE WITH 0,1% TRIFLUOROACETIC ACID**

AC0372 Acetonitrile with 0,1% trifluoroacetic acid, LC-MS 

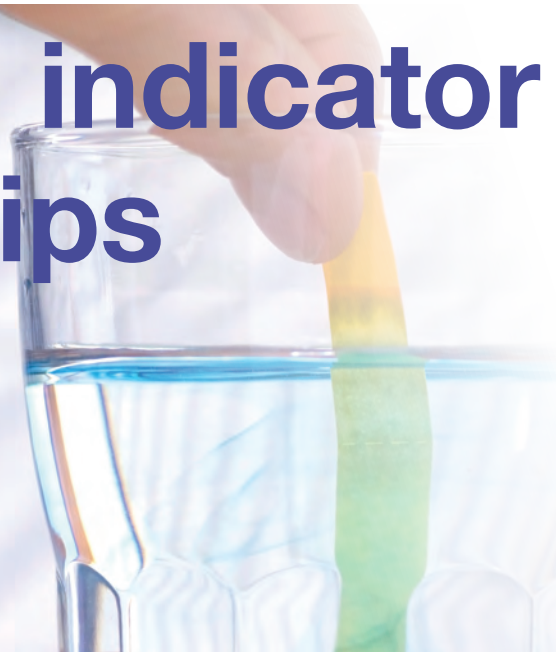
- Flash pt. 6 °C
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225 - H312 - H332 - H319
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P305 + P351 + P338 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, chromatography.

trifluoroacetic acid content (v/v) . . . . . 0,093 - 0,107 %  
 calcium (Ca) . . . . .max. 0,5 ppm  
 magnesium (Mg) . . . . .max. 0,5 ppm  
 potassium (K) . . . . .max. 0,5 ppm  
 sodium (Na) . . . . .max. 2 ppm  
 suitability for use in LC-MS . . . . .passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 210 nm. . . . .30 % 0,523 AU  
 230 nm . . . . .50 % 0,301 AU  
 254 nm. . . . .90 % 0,046 AU

Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
AC03721000	1 l	0

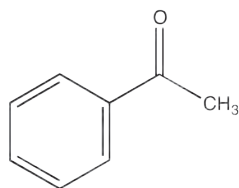
**pH indicator strips**



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## ACETOPHENONE

AC0300 Acetophenone, EssentQ®



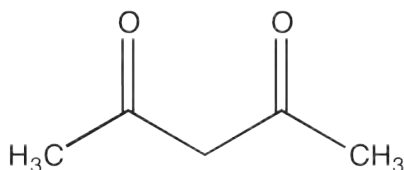
- Synonyms: Methyl phenyl ketone, Phenyl methyl ketone
- $C_8H_8O$
- $M = 120,15 \text{ g/mol}$
- CAS [98-86-2]
- EINECS-No.: 202-708-7
- Density:  $1,03 \text{ g/cm}^3$
- Solub. in water: (20 °C): 5,5 g/l
- Melting point: 20 °C
- Boiling point: 202 °C
- Flash pt. 77 °C
- Ignition temp.: 570 °C
- Vapour pressure: (20 °C) 0,4 hPa
- Refraction index: (n 20 °C/D) 1,5339
- Dielectric const.: (20 °C) 8,6
- LD 50 (oral, rat): 815 mg/kg
- EC-Index-No.: 606-042-00-1
- ADR: Not regulated/IMDG: Not regulated
- ATA/ICAO: 9 UN 3334
- GHS-signal word: Warning
- GHS-H sentences: H302 - H319
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 2914 39 00 90
- Applications: perfumery, synthesis of organic products, synthesis of polymers.

assay (G.C.) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 1,025 - 1,028  
 free acid (as  $C_6H_5COOH$ ) ..... max. 0,05 %  
 water (K.F.) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC03001000	1 l	0

## ACETYLACETONE

AC0220 Acetylacetone, EssentQ®



- Synonyms: 2,4-Pentanedione, ACAC
- $C_5H_8O_2$
- $M = 100,12 \text{ g/mol}$
- CAS [123-54-6]
- EINECS-No.: 204-634-0
- Density:  $0,97 \text{ g/cm}^3$
- Solub. in water: (20 °C): 200 g/l
- Melting point: -23 °C
- Boiling point: 140 °C
- Flash pt. 34 °C
- Ignition temp.: 335 °C
- Vapour pressure: (20 °C) 9 hPa
- Refraction index: (n 20 °C) 1,4510
- Dielectric const.: (20 °C) 25,7
- LD 50 (oral, rat): 575 mg/kg
- EC-Index-No.: 606-029-00-0
- ADR: 3 FT1 III UN 2310
- IMDG: 3 III UN 2310
- IATA/ICAO: 3 III UN 2310
- GHS-signal word: Warning
- GHS-H sentences: H226 - H302
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2914 19 90 90
- Applications: synthesis of organic products, as gasoline additive, in lubricant compositions, insecticide.

assay (G.C.) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,972 - 0,974  
 residue on evaporation ..... max. 0,005 %  
 water (K.F.) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC02200250	250 ml	0
AC02201000	1 l	0

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

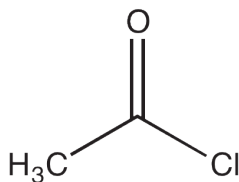
Z

82



## ACETYL CHLORIDE

CL0230 Acetyl chloride, EssentQ®



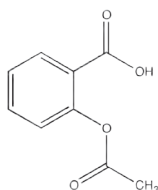
- Synonyms: Acetic acid chloride
- $\text{CH}_3\text{COCl}$
- $M = 78,50 \text{ g/mol}$
- CAS [75-36-5]
- EINECS-No.: 200-865-6
- Density:  $1,10 \text{ g/cm}^3$
- Solub. in water: (20 °C): hydrolysis reaction
- Melting point:  $-112 \text{ °C}$
- Boiling point:  $52 \text{ °C}$
- Flash pt.  $5 \text{ °C}$
- Ignition temp.:  $390 \text{ °C}$
- Vapour pressure: (20 °C)  $320 \text{ hPa}$
- Refraction index: (n 20 °C/D)  $1,3890$
- Dielectric const.: (20 °C)  $15,9$
- LD 50 (oral, rat):  $910 \text{ mg/kg}$
- EC-Index-No.: 607-011-00-5
- ADR: 3 FC II UN 1717
- IMDG: 3 II UN 1717
- IATA/ICAO: 3 II UN 1717
- GHS-signal word: Danger
- GHS-H sentences: H225 - H314 - EUH014
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2915 90 70 90
- Applications: acetylating agent, for water determination.

assay (argentometric) ..... min. 98 %  
identity (IR-spectrum) ..... passes test  
density (20°/4°) ..... 1,103 - 1,105

ART. NO.	VOLUME	CONTAINER
CL02301000	1 l	0

## ACETYLSALICYLIC ACID

AC0355 Acetylsalicylic acid, extra pure, Pharmpur®, Ph Eur, BP, USP



- Synonyms: Acetoxybenzoic acid
- $\text{C}_9\text{H}_8\text{O}_4$
- $M = 180,15 \text{ g/mol}$
- CAS [50-78-2]
- EINECS-No.: 200-064-1
- Solub. in water: (20 °C):  $3,0 \text{ g/l}$
- Melting point:  $136 \text{ °C}$
- Flash pt.  $250 \text{ °C}$
- Ignition temp.:  $500 \text{ °C}$
- LD 50 (oral, rat):  $200 \text{ mg/kg}$
- GHS-signal word: Danger
- GHS-H sentences: H301
- GHS-P sentences: P264 - P270 - P321 - P330 - P405 - P501a
- Tariff number: 2918 22 00 00
- Applications: for pharmaceutical use, in pharma industry.

assay (acidimetric, referred to dried sample) ..... 99,5 - 100,5 %  
identification ..... passes test  
appearance of solution ..... clear and colourless  
chlorides (Cl) ..... max. 0,014 %  
sulfates ( $\text{SO}_4$ ) ..... max. 0,04 %  
salicylic acid ..... max. 0,1 %  
substances darkened by  $\text{H}_2\text{SO}_4$  ..... passes test  
related substances ..... passes test  
loss on drying (over silica gel) ..... max. 0,5 %  
loss on drying (at vacuum) ..... max. 0,5 %  
residue on ignition ..... max. 0,1 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC03550500	500 g	0
AC03551000	1 kg	0
AC0355005P	5 kg	0

## ACID DETERGENT FIBRE REAGENT

RE0025 Acid detergent fibre reagent, ADF according to Van Soest



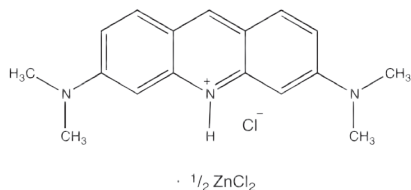
- Density:  $1,03 \text{ g/cm}^3$
- ADR: 8 C9 III UN 1760
- IMDG: 8 III UN 1760
- IATA/ICAO: 8 III UN 1760
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H412
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 3822 00 00 00
- Applications: for acid detergent fibre determination in animal feed.

composition :  
hexadecyltrimethylammonium bromide ..... 20 g  
sulfuric acid, solution 0,5 mol/l (1 N) ..... 1 l

ART. NO.	VOLUME	CONTAINER
RE0025005P	5 l	0

## ACRIDINE ORANGE, C.I. 46005

AN0040 Acridine orange, C.I. 46005, for microscopy



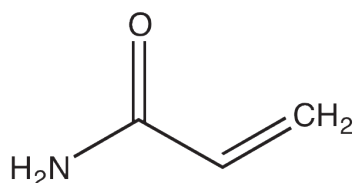
- Synonyms: Basic orange, Acridine orange zinc chloride double salt
- $\text{C}_{17}\text{H}_{20}\text{ClN}_3 \cdot \frac{1}{2} \text{ZnCl}_2$
- $M = 438,09 \text{ g/mol}$
- CAS [10127-02-3]
- EINECS-No.: 233-353-6
- Solub. in water: (20 °C): 28 g/l
- GHS-signal word: Warning
- GHS-H sentences: H341
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 3204 13 00 90
- Applications: bacterium staining, manufacture of dyes.

assay (spectrophotometric) ..... min. 60 %  
 Absorption maximum  $\lambda$  (in ethanol 50 %) ..... 491 - 495 nm  
 Absorptivity (A1%/1 cm;  $\lambda$  max; ethanol 50 %) ..... min. 1345  
 related substances (TLC) ..... passes test  
 suitability for microscopy ..... passes test  
 loss on drying (110 °C) ..... max. 5 %

ART. NO.	VOLUME	CONTAINER
AN00400025	25 g	0

## ACRYLAMIDE

AC3345 Acrylamide, electrophoresis grade



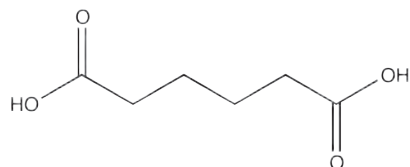
- Synonyms: Acrylic acid amide
- $\text{C}_3\text{H}_5\text{NO}$
- $M = 71,08 \text{ g/mol}$
- CAS [79-06-1]
- EINECS-No.: 201-173-7
- Solub. in water: (20 °C): soluble
- Melting point: 84 °C
- Boiling point: (2,7 hPa) 87 °C
- Vapour pressure: (20 °C) 0,009 hPa
- LD 50 (oral, rat): 124 mg/kg
- EC-Index-No.: 616-003-00-0
- ADR: 6.1 T2 III UN 2074
- IMDG: 6.1 III UN 2074
- IATA/ICAO: 6.1 III UN 2074
- GHS-signal word: Danger
- GHS-H sentences: H301 - H340 - H350 - H372 - H361f - H312 - H332 - H315 - H319 - H317
- GHS-P sentences: P260 - P261 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2924 19 00 90
- Applications: synthesis of polymers, for electrophoresis.
- Appearance: White crystalline powder

assay (G.C.) ..... min. 99,9 %  
 identity (IR-spectrum) ..... passes test  
 insoluble in water ..... max. 0,005 %  
 pH ( 10 %, NaCl 0,1M) ..... 5,0 - 6,6  
 free acid (as acrylic acid) ..... max. 0,001 %  
 conductivity (40 %,  $\text{H}_2\text{O}$ , 20°C) ..... max. 10  $\mu\text{S/cm}$   
 absorbance of an aqueous solution (10 %) in a 1 cm cell at 300 nm ..... max. 0,15 AU  
 turbidity (50 %,  $\text{H}_2\text{O}$ ) ..... max. 2 N.T.U.  
 turbidity (50 %, methanol, 37 °C) ..... max. 3 N.T.U.  
 loss on drying ..... max. 0,5 %

ART. NO.	VOLUME	CONTAINER
AC33450100	100 g	0
AC33451000	1 kg	0

## ADIPIC ACID

AC0375 Adipic acid, EssentQ®



- Synonyms: Hexanedioic acid, 1,4-Butanedicarboxylic acid, Butane-1,4-dicarboxylic acid
- $\text{C}_6\text{H}_{10}\text{O}_4$
- $M = 146,14 \text{ g/mol}$
- CAS [124-04-9]
- EINECS-No.: 204-673-3
- Solub. in water: (25 °C): 24 g/l
- Melting point: 150 - 153 °C
- Boiling point: (13 hPa) 205 °C
- Flash pt. 196 °C
- Vapour pressure: (151 °C) 0,4 hPa
- LD 50 (oral, rat): ~ 5700 mg/kg
- EC-Index-No.: 607-144-00-9
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2917 12 00 10
- Applications: manufacturing of synthetic resins, plasticizer, in lubricant compositions.

assay (acidimetric) ..... min. 99,5 %  
 identity (IR-spectrum) ..... passes test  
 residue on ignition ..... max. 0,01 %  
 water (K.F.) ..... max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC03751000	1 kg	0

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

84

## AGAR-AGAR

- Synonyms: Agar
- CAS [9002-18-0]
- EINECS-No.: 232-658-1

- LD 50 (oral, rat): 11000 mg/kg
- Tariff number: 1302 31 00 00

- Applications: nutrient media for bacterial culture, manufacture of dyes, emulsifier.

### AG0020 Agar-agar, powder, for bacteriology

pH in gel (1,5 %, after autoclaving) . . . . . 6,0 - 7,5  
 gel point (1,5 %, after autoclaving) . . . . . 34 - 36 °C  
 gel strength (1,5%, after autoclaving) . . . . . 650 - 750 Nikan  
 Nephelometry (after autoclaving) . . . . . max. 10 N.T.U  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,1%

calcium (Ca) . . . . . max. 0,1%  
 magnesium (Mg) . . . . . max. 0,05%  
 full ash . . . . . max. 6%  
 loss on drying . . . . . max. 8%

ART. NO.	VOLUME	CONTAINER
AG00200250	250 g	☞
AG00200500	500 g	☞
AG00201000	1 kg	☞

### AG0019 Agar-agar, food grade

insoluble matter . . . . . max. 1%  
 arsenic (As) . . . . . max. 3 ppm  
 copper and zinc . . . . . max. 0,001%  
 heavy metals (as Pb) . . . . . max. 0,001%  
 lead (Pb) . . . . . max. 0,001%  
 zinc (Zn) . . . . . max. 5 ppm

absorption of water . . . . . passes test  
 gelatines and other proteins . . . . . passes test  
 starch and dextrine . . . . . passes test  
 residue on ignition . . . . . max. 6,5%  
 loss on drying . . . . . max. 20%

ART. NO.	VOLUME	CONTAINER
AG00191000	1 kg	☞

## AGAROSE

- CAS [9012-36-6]
- EINECS-No.: 232-731-8

- Solub. in water: (20 °C): sparingly soluble
- Tariff number: 3913 90 00 99

- Applications: analytical chemistry, for electrophoresis.

### AG0030 Agarose Low EEO, electrophoresis grade

gel strength . . . . . min. 1000 g/cm<sup>2</sup>  
 gelling point . . . . . 34 - 38 °C  
 melting point . . . . . 86 - 90 °C  
 All purpose agarose for routine electrophoresis of  
 nucleic acids and proteins.  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,35 %  
 electroendosmosis . . . . . max. 0,15 -mr

water . . . . . max. 10 %  
 DNases, RNases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
AG00300025	25 g	☞
AG00300100	100 g	☞
AG00300250	250 g	☞
AG00301000	1 kg	☞

### AG0031 Agarose Medium EEO, electrophoresis grade

gel strength . . . . . min. 1000 g/cm<sup>2</sup>  
 gelling point . . . . . 34 - 38 °C  
 melting point . . . . . 86 - 90 °C  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,35 %

electroendosmosis . . . . . 0,16 - 0,20 -mr  
 water . . . . . max. 10 %  
 DNases, RNases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
AG00310025	25 g	☞
AG00310100	100 g	☞

### AG0032 Agarose High EEO, electrophoresis grade

gel strength . . . . . min. 700 g/cm<sup>2</sup>  
 gelling point . . . . . 34 - 38 °C  
 melting point . . . . . 86 - 90 °C  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,35 %  
 electroendosmosis . . . . . 0,21 - 0,26 -mr

water . . . . . max. 10 %  
 DNases, RNases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
AG00320025	25 g	☞
AG00320100	100 g	☞
AG00320250	250 g	☞

### AG0034 Agarose Low Melt, electrophoresis grade

gel strength . . . . . min. 400 g/cm<sup>2</sup>  
 gelling point . . . . . 26 - 30 °C  
 mesh size . . . . . > 65  
 melting point . . . . . 62 - 70 °C

Specially suitable in preparative electrophoresis for intact recovery of DNA and RNA, fragments greater than 1000 bp. Posar el greater than 1000 bp.  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,15 %  
 electroendosmosis . . . . . max. 0,15 -mr  
 resolution . . . . . passes test  
 water . . . . . max. 10 %  
 DNases, RNases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
AG00340005	5 g	☞

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

86

## AG0036 Agarose High Resolution, electrophoresis grade

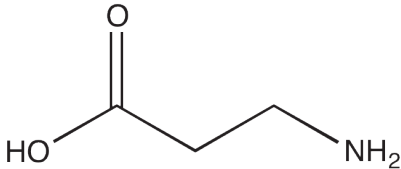
gel strength (1,5%) .....min. 1000 g/cm<sup>2</sup>  
gelling point ..... 30 - 38 °C  
melting point ..... 82 - 90 °C  
sulfates (SO<sub>4</sub>) ..... max. 0,15 %

Allows resolution of small DNA, RNA and OCR fragments < 1000 bp  
electroendosmosis .....max. 0,15 -mr  
resolution .....passes test  
water ..... max. 10 %  
DNases, RNases ..... non detected

ART. NO.	VOLUME	CONTAINER
AG00360025	25 g	Ⓟ

## b-ALANINE

### AL0035 b-Alanine, EssentQ®



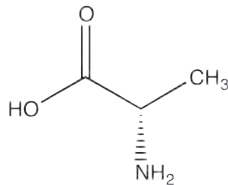
- Synonyms: 3-Aminopropanoic acid, Ala
- C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>
- M = 89,09 g/mol
- CAS [107-95-9]
- EINECS-No.: 203-536-5
- Solub. in water: (20 °C): 545 g/l
- Melting point: 200 °C (decomposes)
- Tariff number: 2922 49 20 00
- Applications: in biochemistry.

assay (titration with HClO<sub>4</sub>, on dried sample) ..... min. 98,5 %  
identity (IR-spectrum) .....passes test

ART. NO.	VOLUME	CONTAINER
AL00350250	250 g	Ⓟ

## L-ALANINE

### AL0030 L-Alanine, extra pure, Phampur®, Ph Eur, BP, USP



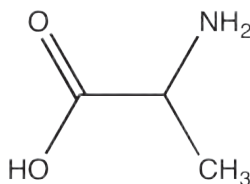
- Synonyms: α-Aminopropanoic acid, 2-Aminopropanoic acid, Ala
- C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>
- M = 89,09 g/mol
- CAS [56-41-7]
- EINECS-No.: 200-273-8
- Solub. in water: (25 °C): 166,5 g/l
- Melting point: 295 - 297 °C (decomposes)
- Tariff number: 2922 49 95 90
- Applications: nutrient media for bacterial culture, synthesis of organic products, in biochemistry, in pharma industry.

assay (titration with HClO<sub>4</sub>, on dried sample) ..... 98,5 - 101,0 %  
identification .....passes test  
appearance of solution .....passes test  
specific rotation ([α]<sub>25</sub><sup>D</sup>, 100g/l, HCl 6 mol/l) ..... + 13,7° - + 15,1°  
specific rotation ([α]<sub>20</sub><sup>D</sup>, 100g/l, HCl 250g/l) ..... + 13,5° - + 15,5°  
pH (5 %, H<sub>2</sub>O, 25°C) ..... 5,5 - 7,0  
chlorides (Cl) ..... max. 200 ppm  
sulfates (SO<sub>4</sub>) ..... max. 300 ppm  
ammonium (NH<sub>4</sub>) ..... max. 0,02 %  
iron (Fe) ..... max. 10 ppm  
ninhydrin-positive substances .....passes test  
related substances .....passes test  
residue on ignition ..... max. 0,1 %  
loss on drying (105°C) ..... max. 0,2 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AL00300100	100 g	Ⓟ

## DL-ALANINE

### AL0025 DL-Alanine, EssentQ®



- Synonyms: 2-Aminopropionic acid, Ala
- C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>
- M = 89,09 g/mol
- CAS [302-72-7]
- EINECS-No.: 206-126-4
- Solub. in water: (25 °C): 167 g/l
- Melting point: 264 - 296 °C (decomposes)
- Tariff number: 2922 49 95 90
- Applications: in biochemistry, in food industry.

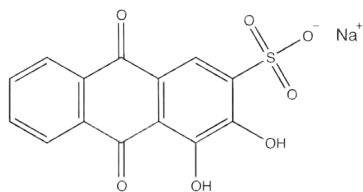
assay (titration with HClO<sub>4</sub>) ..... min. 99 %  
identity (IR-spectrum) .....passes test  
insoluble in water ..... max. 0,05 %  
chlorides (Cl) ..... max. 0,01 %  
sulfates (SO<sub>4</sub>) ..... max. 0,01 %  
ammonium (NH<sub>4</sub>) ..... max. 0,02 %  
arsenic (As) ..... max. 1,5 ppm  
copper (Cu) ..... max. 0,001 %  
heavy metals (as Pb) ..... max. 0,001 %  
iron (Fe) ..... max. 0,001 %  
lead (Pb) ..... max. 0,001 %  
nickel (Ni) ..... max. 0,001 %  
related substances (TLC) .....passes test  
residue on ignition ..... max. 0,1 %  
loss on drying (105 °C) ..... max. 0,5 %

ART. NO.	VOLUME	CONTAINER
AL00250100	100 g	Ⓟ



## ALIZARIN RED S, C.I. 58005

RO0070 Alizarin red S, C.I. 58005, ExpertQ®, for analysis



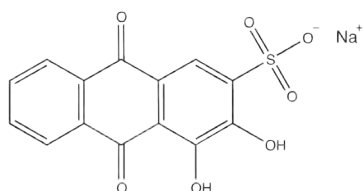
- Synonyms: Sodium alizarinsulfonate, Alizarin carmine, 1,2-Dihydroxyanthraquinone-3-sulfonic acid sodium salt, Alizarin sulfonic acid sodium salt
- $C_{14}H_7NaO_5S$
- $M = 342,25 \text{ g/mol}$
- CAS [130-22-3]
- EINECS-No.: 204-981-8
- Tariff number: 3204 12 00 90
- Applications: analytical chemistry, indicator.

pH range (yellow to purple-red) ..... 3,7 - 5,2  
 identity (IR-spectrum) ..... passes test  
 insoluble in water ..... passes test  
 Absorption maximum  $\lambda_1$  (NaOH 0,1 M) ..... 592 - 596 nm  
 Absorption maximum  $\lambda_2$  (NaOH 0,1 M) ..... 553 - 558 nm  
 Absorptivity (A1%/1 cm;  $\lambda_{\text{max}1}$ , NaOH 0,1 M) ..... 305 - 480  
 Absorptivity (A1%/1 cm;  $\lambda_{\text{max}2}$ , NaOH 0,1 M) ..... 330 - 520  
 related substances (TLC) ..... passes test  
 loss on drying (135°C) ..... max. 5,0 %  
 suitability for microscopy ..... passes test  
 sensitivity to Aluminium ..... passes test

ART. NO.	VOLUME	CONTAINER
RO00700025	25 g	0
RO00700100	100 g	0

## ALIZARIN RED S, SOLUTION 0,1%

RO0071 Alizarin red S, solution 0,1%



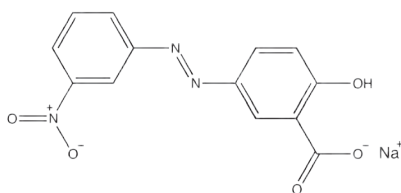
- Synonyms: Sodium alizarinsulfonate, Alizarin carmine, 1,2-Dihydroxyanthraquinone-3-sulfonic acid sodium salt, Alizarin sulfonic acid sodium salt
- $C_{14}H_7NaO_5S$
- $M = 342,25 \text{ g/mol}$
- CAS [130-22-3]
- EINECS-No.: 204-981-8
- Density: 0,947 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

pH range (yellow to purple-red) ..... 3,7 - 5,2

ART. NO.	VOLUME	CONTAINER
RO00710100	100 ml	0

## ALIZARIN YELLOW GG, C.I. 14025

AM0025 Alizarin yellow GG, C.I. 14025, indicator



- Synonyms: 2-Hydroxy-5[(3-nitrophenyl)azo]benzoic acid monosodium salt, Mordant yellow 1
- $C_{13}H_8N_2NaO_5$
- $M = 309,21 \text{ g/mol}$
- CAS [584-42-9]
- EINECS-No.: 209-536-1
- Solub. in water: (25 °C): ~ 12 g/l
- Tariff number: 3204 19 00 90
- Applications: indicator and for microbiology.

pH range (yellow-orange) ..... 10,2 - 12,1  
 Absorption maximum  $\lambda_1$  (pH 10,2) ..... 350 - 355 nm  
 Absorptivity (A1%/1 cm;  $\lambda_1$ , pH 10,2, on dried sample) ..... 620 - 720  
 Absorption maximum  $\lambda_2$  (pH 12,1) ..... 448 - 452 nm  
 Absorptivity (A1%/1 cm;  $\lambda_2$ ; pH 12,1 on dried sample) ..... 800 - 900  
 suitability for microbiology ..... passes test  
 loss on drying (110°C) ..... max. 1 %

ART. NO.	VOLUME	CONTAINER
AM00250010	10 g	0

## ALUMINIUM

AL0760 Aluminium, powder, EssentQ®



- Al
- $M = 26,98 \text{ g/mol}$
- CAS [7429-90-5]
- EINECS-No.: 231-072-3
- Solub. in water: (20°C): insoluble
- Melting point: 660°C
- Boiling point: 2467°C
- Ignition temp.: ~ 400°C
- EC-Index-No.: 013-001-00-6
- ADR: 4.3 W2 II UN 1396
- IMDG: 4.3 II UN 1396

- IATA/ICAO: 4.3 II UN 1396
- GHS-signal word: Danger
- GHS-H sentences: H250 - H261
- GHS-P sentences: P210 - P222 - P231 + P232 - P280 - P422a - P501a
- Tariff number: 7603 10 00 00
- Applications: in explosive compositions, photography, synthesis of organic products, metal alloys, for the synthesis of: inorganic salts.

assay ..... min. 99 %

ART. NO.	VOLUME	CONTAINER
AL07600250	250 g	0
AL07601000	1 kg	0
AL0760005P	5 kg	0


A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## ALUMINIUM AMMONIUM SULFATE DODECAHYDRATE

AL0740 Aluminium ammonium sulfate dodecahydrate, extra pure, Pharpur®, USP

- Synonyms: Ammonium aluminium sulfate, Ammonium alum
- $NH_4Al(SO_4)_2 \cdot 12H_2O$
- M = 453,33 g/mol
- CAS [7784-26-1]
- EINECS-No.: 232-055-3
- Solub. in water: (20°C): 150 g/l
- Melting point: 93°C
- Boiling point: 200°C
- Tariff number: 2833 30 00 00
- Applications: for water purifying, manufacture of dyes, manufacturing of lacquers, in porcelain industry, in pharma industry.

assay (complexometric, referred to dried sample) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 iron (Fe) . . . . . passes test  
 alkali and alkaline-earth salts . . . . . max. 0,5 %  
 loss on drying (300 °C) . . . . . 45,0 - 48,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.





ART. NO.	VOLUME	CONTAINER
AL07400500	500 g	
AL07401000	1 kg	

## ALUMINIUM CHLORIDE HEXAHYDRATE

AL0770 Aluminium chloride hexahydrate, extra pure, Pharpur®, Ph Eur, BP, USP 

- Synonyms: Hydrochloric acid aluminium salt hexahydrate
- $AlCl_3 \cdot 6H_2O$
- M = 241,43 g/mol
- CAS [7784-13-6]
- EINECS-No.: 231-208-1
- Solub. in water: (20 °C): 1330 g/l
- Melting point: ~ 100 °C
- LD 50 (oral, rat): 3311 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2827 32 00 00
- Applications: as gasoline additive, manufacture of dyes, cosmetics, in pharma industry.

assay (complexometric) . . . . . 95,0 - 101,0 %  
 assay (complexometric, referred to dried sample) . . . . . 95,0 - 102,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 sulfates ( $SO_4$ ) . . . . . max. 100 ppm  
 sulfates ( $SO_4$ ) . . . . . passes test  
 iron (Fe) . . . . . max. 10 ppm  
 alkali and alkaline earth metals . . . . . max. 0,5 %  
 water . . . . . 42,0 - 48,0 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.

ART. NO.	VOLUME	CONTAINER
AL07700500	500 g	
AL07701000	1 kg	
AL0770005P	5 kg	
AL0770025P	25 kg	

## ALUMINIUM HYDROXIDE

AL0795 Aluminium hydroxide, EssentQ®

- Synonyms: Gibbsite, Hydrargillite
- $Al(OH)_3$
- M = 78,00 g/mol
- CAS [21645-51-2]
- EINECS-No.: 244-492-7
- Solub. in water: (20°C): ~ 0,0015 g/l
- Melting point: 300°C (release of crystalline water)
- Vapour pressure: (20°C) 5000 mg/kg
- Tariff number: 2818 30 00 90

• Applications: chromatography, emulsifier, manufacture of dyes, in lubricant compositions, ion exchanger.  
 assay (complexometric) . . . . . min. 90 %  
 arsenic (As) . . . . . max. 3 ppm  
 copper (Cu) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,01 %  
 lead (Pb) . . . . . max. 0,002 %  
 nickel (Ni) . . . . . max. 0,002 %  
 residue on ignition . . . . . 32 - 35 %

ART. NO.	VOLUME	CONTAINER
AL07950250	250 g	
AL07951000	1 kg	

## ALUMINIUM NITRATE NONAHYDRATE

- $Al(NO_3)_3 \cdot 9H_2O$
- M = 375,13 g/mol
- CAS [7784-27-2]
- EINECS-No.: 236-751-8
- Solub. in water: (20 °C): 419 g/l
- Melting point: 73 °C
- Boiling point: 135 °C (decomposes)

- LD 50 (oral, rat): 3671 mg/kg
- ADR: 5.1 O2 III UN 1438
- IMDG: 5.1 III UN 1438
- IATA/ICAO: 5.1 III UN 1438
- GHS-signal word: Danger
- GHS-H sentences: H272 - H315 - H319

- GHS-P sentences: P221 - P210 - P220 - P305 + P351 + P338 - P321 - P501a
- Tariff number: 2834 29 80 00
- Applications: analytical chemistry, cosmetics, for the synthesis of: nitro compounds.
- Appearance: Semi-transparent to transparent crystals

## AL0850 Aluminium nitrate nonahydrate, EssentQ®



assay (complexometric) . . . . . 98 - 102 %  
 insoluble in water . . . . . max. 0,02 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 2,5 - 3,5  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,05 %  
 arsenic (As) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,02 %  
 copper (Cu) . . . . . max. 0,001 %

heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,01 %  
 lead (Pb) . . . . . max. 0,001 %  
 magnesium (Mg) . . . . . max. 0,005 %  
 nickel (Ni) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,05 %  
 sodium (Na) . . . . . max. 0,01 %  
 non precipitable by NH<sub>4</sub>OH (as SO<sub>4</sub>) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
AL08500500	500 g	
AL08501000	1 kg	
AL0850005P	5 kg	

## AL0820 Aluminium nitrate nonahydrate, ExpertQ®, for analysis, ACS



assay (complexometric) . . . . . 98 - 102 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 2,0 - 4,0  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,02 %  
 cadmium (Cd) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,001 %

heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,001 %  
 magnesium (Mg) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,002 %  
 sodium (Na) . . . . . max. 0,005 %  
 zinc (Zn) . . . . . max. 0,001 %  
 non precipitable by NH<sub>4</sub>OH (as SO<sub>4</sub>) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AL08200500	500 g	
AL08201000	1 kg	
AL0820005P	5 kg	

## ALUMINIUM OXIDE

- Synonyms: Alum earth, Alumina, Gooch crucibles
- Al<sub>2</sub>O<sub>3</sub>
- M = 101,96 g/mol
- CAS [1344-28-1]

- EINECS-No.: 215-691-6
- Solub. in water: (20°C): insoluble
- Melting point: - 1760°C
- Tariff number: 2818 20 00 00

- Applications: in porcelain industry, in building materials, catalyst, synthesis of organic products.

## AL0830 Aluminium oxide, EssentQ®

residue on ignition . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
AL08301000	1 kg	

## AL0835 Aluminium oxide activated, neutral, for column chromatography (activity degree 1)

grain size: 0,05-0,2 mm (70-290 mesh ASTM)  
 pH (10 %, H<sub>2</sub>O) . . . . . approx. 7,5

ART. NO.	VOLUME	CONTAINER
AL08351000	1 kg	
AL08352500	2,5 kg	

ART. NO.	VOLUME	CONTAINER
AL0835005P	5 kg	

## AL0836 Aluminium oxide activated, acid, for column chromatography (activity degree 1)

grain size: 0,05-0,2 mm (70-290 mesh ASTM)  
 pH (10 %, H<sub>2</sub>O) . . . . . 4,5

ART. NO.	VOLUME	CONTAINER
AL08361000	1 kg	

ART. NO.	VOLUME	CONTAINER
AL0836005P	5 kg	

## AL0837 Aluminium oxide activated, basic, for column chromatography (activity degree 1)

grain size: 0,05-0,2 mm (70-290 mesh ASTM)  
 pH (10 %, H<sub>2</sub>O) . . . . . approx. 10

ART. NO.	VOLUME	CONTAINER
AL08371000	1 kg	

ART. NO.	VOLUME	CONTAINER
AL0837005P	5 kg	

## ALUMINIUM POTASSIUM SULFATE DODECAHYDRATE

- Synonyms: Potassium aluminium sulfate, Alum potassium, Potassium alum
- KAl(SO<sub>4</sub>)<sub>2</sub>·12H<sub>2</sub>O
- M = 474,39 g/mol
- CAS [7784-24-9]

- EINECS-No.: 233-141-3
- Solub. in water: (20 °C): 139 g/l
- Melting point: 90 °C
- Tariff number: 2833 30 00 00

- Applications: analytical chemistry, manufacture of dyes, manufacturing of lacquers, in explosive compositions.
- Appearance: White and crystalline

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

90

## AL0745 Aluminium potassium sulfate dodecahydrate, extra pure, Pharmpur®, Ph Eur, BP, USP

assay (complexometric) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 pH (10 %, H<sub>2</sub>O) . . . . . 3,0 - 3,5  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,2 %  
 iron (Fe) . . . . . max. 100 ppm  
 iron (Fe) . . . . . passes test

loss on drying . . . . . 43,0 % - 46,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AL07450500	500 g	
AL07451000	1 kg	
AL0745005P	5 kg	
AL0745025P	25 kg	

## AL0746 Aluminium potassium sulfate dodecahydrate, ExpertQ®, for analysis, ACS, Reag. Ph Eur

assay (complexometric) . . . . . 99,0 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,005 %  
 pH (10 %, H<sub>2</sub>O) . . . . . 3,0 - 3,5  
 chlorides (Cl) . . . . . max. 5 ppm  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,005 %

cadmium (Cd) . . . . . max. 5 ppm  
 copper (Cu) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 sodium (Na) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AL07460500	500 g	
AL07461000	1 kg	
AL0746005P	5 kg	
AL0746025P	25 kg	

## ALUMINIUM SULFATE 18-HYDRATE

### AL0855 Aluminium sulfate 18-hydrate, extra pure, Pharmpur®, Ph Eur, BP

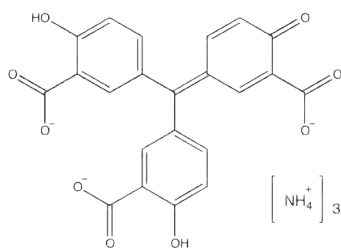
- Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>·18H<sub>2</sub>O
- M = 666,42 g/mol
- CAS [7784-31-8]
- EINECS-No.: 233-135-0
- Solub. in water: (20 °C): ~ 600 g/l
- Melting point: 92 °C
- LD 50 (oral, rat): 9000 mg/kg
- Tariff number: 2833 22 00 00
- Applications: manufacturing of lacquers, manufacture of dyes, in pesticide compositions, for water purifying, in pharma industry.

assay (complexometric, Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>) . . . . . 51,0 - 59,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 pH (2%, H<sub>2</sub>O) . . . . . 2,5 - 4,0  
 alkali and alkaline earth metals . . . . . max. 0,4 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 500 ppm  
 iron (Fe) . . . . . max. 100 ppm  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AL08550500	500 g	
AL08551000	1 kg	
AL0855005P	5 kg	

## ALUMINON

### AL0860 Aluminon, reagent for aluminium, ExpertQ®, for analysis, ACS



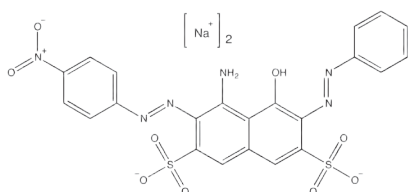
- Synonyms: Aurin tricarboxylic acid ammonium salt, Ammonium aurin tricarboxylate
- C<sub>22</sub>H<sub>23</sub>N<sub>9</sub>O<sub>9</sub>
- M = 473,44 g/mol
- CAS [569-58-4]
- EINECS-No.: 209-319-1
- Solub. in water: (20 °C): ~ 800 g/l
- LD 50 (oral, rat): 9000 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H373 - H312 - H332
- GHS-P sentences: P260 - P261 - P280 - P322 - P304 + P340 - P501a
- Tariff number: 2918 90 90 90
- Applications: manufacturing of lacquers, for the detection of: aluminium.

insoluble in water . . . . . max. 0,1 %  
 suitability for determination of Al . . . . . passes test  
 residue on ignition . . . . . max. 0,2 %  
 loss on drying (110 °C) . . . . . max. 10 %

ART. NO.	VOLUME	CONTAINER
AL08600025	25 g	

## AMIDO BLACK 10 B, C.I. 20470

### NE0025 Amido black 10 B, C.I. 20470



- Synonyms: Black acid 1, Naphthol blue black
- C<sub>22</sub>H<sub>14</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>9</sub>S<sub>2</sub>
- M = 616,5 g/mol
- CAS [1064-48-8]
- EINECS-No.: 213-903-1
- Solub. in water: (20 °C): 30 g/l
- GHS-signal word: Danger
- GHS-H sentences: H228 - H301 - H330
- GHS-P sentences: P210 - P241 - P260 - P320 - P405 - P501a
- Tariff number: 3204 12 00 00
- Applications: analytical chemistry, indicator, chromatography, for electrophoresis.

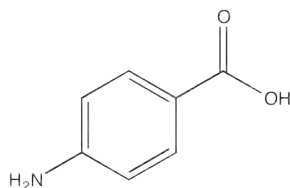
Absorption maximum λ (in H<sub>2</sub>O) . . . . . 614 - 620 nm  
 Absorptivity (A1%/1 cm; λ max.) . . . . . 625 - 670  
 loss on drying (135 °C) . . . . . max. 10 %

ART. NO.	VOLUME	CONTAINER
NE00250025	25 g	



## 4-AMINO BENZOIC ACID

AC0415 4-Aminobenzoic acid, EssentQ®



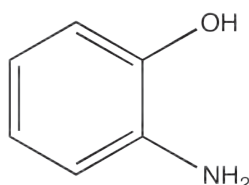
- Synonyms: p-Aminobenzoic acid, PABA
- $C_7H_7NO_2$
- M = 137,14 g/mol
- CAS [150-13-0]
- EINECS-No.: 205-753-0
- Solub. in water: (20 °C): 4,7 g/l
- Melting point: 186 - 189 °C
- LD 50 (oral, rat): > 6000 mg/kg
- Tariff number: 2922 49 95 90
- Applications: synthesis of organic products, manufacture of dyes.

assay (acidimetric) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
loss on drying (105°C) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC04150250	250 g	☒
AC04151000	1 kg	☒

## 2-AMINOPHENOL

AM0210 2-Aminophenol, EssentQ®



- Synonyms: 2-Amino-1-hydroxybenzene, 2-Hydroxyaniline, o-Aminophenol
- $C_6H_7NO$
- M = 109,13 g/mol
- CAS [95-55-6]
- EINECS-No.: 202-431-1
- Solub. in water: (20 °C): 17 g/l
- Melting point: 172 -174 °C (sublimes)
- Flash pt. 168 °C
- Vapour pressure: (153 °C) 14 hPa
- LD 50 (oral, rat): 1300 mg/kg
- EC-Index-No.: 612-033-00-3
- ADR: 6.1 T2 III UN 2512
- IMDG: 6.1 III UN 2512
- IATA/ICAO: 6.1 III UN 2512
- GHS-signal word: Warning
- GHS-H sentences: H341 - H302 - H332
- GHS-P sentences: P261 - P281 - P304 + P340 - P308 + P313 - P405 - P501a
- Tariff number: 2922 29 00 90
- Applications: synthesis of organic products, manufacture of dyes, in the textile industry.

assay (titration with  $HClO_4$ ) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AM02100100	100 g	☒

## AMMONIA, SOLUTION 32%

AM0251 Ammonia, solution 32% w/w, EssentQ®

- Synonyms: Ammonia water, Ammonium hydroxide solution
- $NH_3$
- M = 17,03 g/mol
- CAS [1336-21-6]
- EINECS-No.: 215-647-6
- Density: 0,89 g/cm<sup>3</sup>
- Melting point: -91,5 °C
- Boiling point: 24,7 °C
- Vapour pressure: (20 °C) ~ 837 hPa
- LD 50 (oral, rat): 350 mg/kg
- EC-Index-No.: 007-001-01-2
- ADR: 8 C5 III UN 2672
- IMDG: 8 III UN 2672
- IATA/ICAO: 8 III UN 2672
- GHS-signal word: Danger
- GHS-H sentences: H314 - H400 - H335
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2814 20 00 00
- Applications: analytical chemistry, laboratory reagent, for ammonium salts synthesizing.

assay (acidimetric,  $NH_3$ ) . . . . . min. 30,0 %  
density (20°/20°) . . . . . about 0,892  
carbonates (as  $CO_2$ ) . . . . . max. 0,005 %  
chlorides (Cl) . . . . . max. 5 ppm  
phosphates (as  $PO_4$ ) . . . . . max. 5 ppm  
sulfates ( $SO_4$ ) . . . . . max. 0,001 %  
calcium (Ca) . . . . . max. 0,001 %  
copper (Cu) . . . . . max. 0,5 ppm  
iron (Fe) . . . . . max. 1 ppm  
lead (Pb) . . . . . max. 1 ppm  
magnesium (Mg) . . . . . max. 0,001 %  
nickel (Ni) . . . . . max. 1 ppm  
zinc (Zn) . . . . . max. 1 ppm  
substances reducing  $KMnO_4$  . . . . . passes test  
residue on ignition . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
AM02511000	1 l	☒
AM02512500	2,5 l	☒

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

A

## AMMONIA, SOLUTION 28%

AM0256 Ammonia, solution 28% w/w, reagent grade, Pharmpur®, Ph Eur



- Synonyms: Ammonia water
- NH<sub>3</sub>
- M = 17,03 g/mol
- CAS [1336-21-6]
- EINECS-No.: 215-647-6
- Density: ~ 0,90 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -63 °C
- Boiling point: 36 °C
- Vapour pressure: (20 °C) 535 hPa
- LD 50 (oral, rat): 350 mg/kg
- EC-Index-No.: 007-001-01-2
- ADR: 8 C5 III UN 2672
- IMDG: 8 III UN 2672
- IATA/ICAO: 8 III UN 2672
- GHS-signal word: Danger
- GHS-H sentences: H314 - H400 - H335
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2814 20 00 00
- Applications: analytical chemistry, laboratory reagent, for ammonium salts synthesizing, in pharma industry.

assay (acidimetric, NH<sub>3</sub>) . . . . . 28,0 - 30,0 %  
 appearance . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 carbon dioxide (CO<sub>2</sub>) . . . . . max. 0,002 %  
 chlorides (Cl) . . . . . max. 0,3 ppm  
 nitrates (NO<sub>3</sub>) . . . . . max. 2 ppm  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,5 ppm  
 silicates (SiO<sub>2</sub>) . . . . . max. 5 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 2 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 copper (Cu) . . . . . max. 0,1 ppm  
 heavy metals (as Pb) . . . . . max. 0,5 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,05 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 potassium (K) . . . . . max. 0,5 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 pyridine and related substances . . . . . max. 2 ppm  
 oxidisable substances . . . . . passes test  
 residue on ignition . . . . . max. 0,002 %  
 residue on evaporation . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AM02561000	1 l	0
AM02562500	2,5 l	0
AM0256005P	5 l	0

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## AMMONIA, SOLUTION 25%

- Synonyms: Ammonia water, Ammonium hydroxide solution
- NH<sub>3</sub>
- M = 17,03 g/mol
- CAS [1336-21-6]
- EINECS-No.: 215-647-6
- Density: 0,90 g/cm<sup>3</sup>

- Melting point: -57,5 °C
- Boiling point: 37,7 °C
- Vapour pressure: (20 °C) ~ 500 hPa
- LD 50 (oral, rat): 350 mg/kg
- EC-Index-No.: 007-001-01-2
- ADR: 8 C5 III UN 2672
- IMDG: 8 III UN 2672

- IATA/ICAO: 8 III UN 2672
- GHS-signal word: Danger
- GHS-H sentences: H314 - H400 - H335
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2814 20 00 00
- Applications: analytical chemistry, laboratory reagent.

AM0257 Ammonia, solution 25% w/w, EssentQ®



assay (acidimetric, NH<sub>3</sub>) . . . . . min. 25 %  
 density (20°/20°) . . . . . 0,900 - 0,910  
 residue on evaporation . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AM02571000	1 l	0

ART. NO.	VOLUME	CONTAINER
AM0257005P	5 l	0

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AM0250 Ammonia, solution 25% w/w, extra pure, Pharmpur®, Ph Eur



assay (acidimetric, NH<sub>3</sub>) . . . . . 25,0 - 30,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 carbonates (as CO<sub>2</sub>) . . . . . max. 60 ppm  
 chlorides (Cl) . . . . . max. 1 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 0,25 ppm

pyridine and related substances . . . . . max. 2 ppm  
 oxidisable substances . . . . . passes test  
 residue on evaporation . . . . . max. 20 ppm  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AM02501000	1 l	0
AM02502500	2,5 l	0
AM0250005P	5 l	0

AM0249 Ammonia, solution 25% w/w, ExpertQ®, for analysis, Reag. Ph Eur



assay (acidimetric, NH<sub>3</sub>) . . . . . 25,0 - 30,0 %  
 density (20°/20°) . . . . . 0,892 - 0,910  
 appearance of solution . . . . . clear and colourless  
 carbonates (as CO<sub>2</sub>) . . . . . max. 0,001 %  
 chlorides (Cl) . . . . . max. 0,5 ppm  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,5 ppm  
 silicates (SiO<sub>2</sub>) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 2 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 copper (Cu) . . . . . max. 0,1 ppm

iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,05 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 potassium (K) . . . . . max. 0,5 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 pyridine and related substances . . . . . max. 2 ppm  
 substances reducing KMnO<sub>4</sub> . . . . . max. 8 ppm  
 oxidisable substances . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AM02491000	1 l	0
AM02492500	2,5 l	0
AM0249005P	5 l	0
AM0249025P	25 l	0

AM0258 Ammonia, solution 25%, eluent additive for LC-MS



assay (acidimetric, NH<sub>3</sub>) . . . . . min. 25 %  
aluminium (Al) . . . . . max. 0,05 ppm  
barium (Ba) . . . . . max. 0,05 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,05 ppm  
chromium (Cr) . . . . . max. 0,05 ppm  
cobalt (Co) . . . . . max. 0,05 ppm  
copper (Cu) . . . . . max. 0,05 ppm  
iron (Fe) . . . . . max. 0,05 ppm  
lead (Pb) . . . . . max. 0,05 ppm  
lithium (Li) . . . . . max. 0,05 ppm

magnesium (Mg) . . . . . max. 0,05 ppm  
manganese (Mn) . . . . . max. 0,05 ppm  
molybdenum (Mo) . . . . . max. 0,05 ppm  
nickel (Ni) . . . . . max. 0,05 ppm  
potassium (K) . . . . . max. 0,05 ppm  
silver (Ag) . . . . . max. 0,05 ppm  
sodium (Na) . . . . . max. 0,05 ppm  
strontium (Sr) . . . . . max. 0,05 ppm  
thallium (Tl) . . . . . max. 0,05 ppm  
zinc (Zn) . . . . . max. 0,05 ppm  
suitability for use in LC-MS . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AM02580100	100 ml	Ⓜ

**AMMONIA, SOLUTION 20%**

- Synonyms: Ammonia water
- NH<sub>3</sub>
- M = 17,03 g/mol
- CAS [1336-21-6]
- EINECS-No.: 215-647-6
- Density: ~ 0,93 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible

- EC-Index-No.: 007-001-01-2
- ADR: 8 C5 III UN 2672
- IMDG: 8 III UN 2672
- IATA/ICAO: 8 III UN 2672
- GHS-signal word: Danger
- GHS-H sentences: H314 - H335

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2814 20 00 00
- Applications: analytical chemistry, laboratory reagent, detergent, bleaching agent, reagent for saponification reactions.

AM0247 Ammonia, solution 20% w/w, EssentQ®



assay (acidimetric, NH<sub>3</sub>) . . . . . min. 20 %  
density (20°/4°) . . . . . 0,917 - 0,923  
carbonates (as CO<sub>2</sub>) . . . . . max. 0,005 %  
chlorides (Cl) . . . . . max. 0,0005 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,0005 %  
calcium (Ca) . . . . . max. 0,001 %  
copper (Cu) . . . . . max. 1 ppm

iron (Fe) . . . . . max. 1 ppm  
lead (Pb) . . . . . max. 1 ppm  
magnesium (Mg) . . . . . max. 0,001 %  
nickel (Ni) . . . . . max. 1 ppm  
zinc (Zn) . . . . . max. 1 ppm  
sulphur compounds (as SO<sub>2</sub>) . . . . . max. 0,001 %  
residue on evaporation . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
AM02471000	1 l	Ⓜ
AM02472500	2,5 l	Ⓜ

AM0248 Ammonia, solution 20% w/w, ExpertQ®, for analysis



assay (acidimetric, NH<sub>3</sub>) . . . . . min. 20 %  
colour (Hazen) . . . . . max. 10  
carbonates (as CO<sub>2</sub>) . . . . . max. 0,001 %  
chlorides (Cl) . . . . . max. 0,00005 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,0002 %  
sulfides (S) . . . . . max. 0,00002 %  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,05 ppm  
bismuth (Bi) . . . . . max. 0,1 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,05 ppm  
cobalt (Co) . . . . . max. 0,05 ppm  
copper (Cu) . . . . . max. 0,1 ppm  
gallium (Ga) . . . . . max. 0,02 ppm  
gold (Au) . . . . . max. 0,1 ppm  
indium (In) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm

lead (Pb) . . . . . max. 0,05 ppm  
lithium (Li) . . . . . max. 0,02 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,05 ppm  
molybdenum (Mo) . . . . . max. 0,05 ppm  
nickel (Ni) . . . . . max. 0,05 ppm  
platinum (Pt) . . . . . max. 0,1 ppm  
potassium (K) . . . . . max. 0,5 ppm  
silver (Ag) . . . . . max. 0,02 ppm  
sodium (Na) . . . . . max. 0,5 ppm  
strontium (Sr) . . . . . max. 0,1 ppm  
thallium (Tl) . . . . . max. 0,05 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
titanium (Ti) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
pyridine and related substances . . . . . max. 0,0002 %  
substances reducing KMnO<sub>4</sub> . . . . . max. 0,0005 %  
residue on evaporation . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AM02481000	1 l	Ⓜ
AM02482500	2,5 l	Ⓜ
AM0248005P	5 l	Ⓜ

AM0269 Ammonia, solution 20 - 22%, Ultratrace®, ppb-trace analysis grade



assay (acidimetric, NH <sub>3</sub> )	20 - 22 %	magnesium (Mg)	max. 1 ppb
colour (Hazen)	max. 10	manganese (Mn)	max. 0,5 ppb
chlorides (Cl)	max. 0,00005 %	mercury (Hg)	max. 0,2 ppb
phosphates (as PO <sub>4</sub> )	max. 0,00001 %	molybdenum (Mo)	max. 0,5 ppb
sulfates (SO <sub>4</sub> )	max. 0,0001 %	neodymium (Nd)	max. 0,1 ppb
aluminium (Al)	max. 1 ppb	nickel (Ni)	max. 0,5 ppb
antimony (Sb)	max. 0,5 ppb	niobium (Nb)	max. 0,1 ppb
arsenic (As)	max. 1 ppb	potassium (K)	max. 1 ppb
barium (Ba)	max. 0,1 ppb	praseodymium (Pr)	max. 0,1 ppb
beryllium (Be)	max. 0,1 ppb	rhodium (Rh)	max. 0,5 ppb
bismuth (Bi)	max. 0,1 ppb	rubidium (Rb)	max. 0,1 ppb
cadmium (Cd)	max. 0,5 ppb	samarium (Sm)	max. 0,1 ppb
calcium (Ca)	max. 1 ppb	scandium (Sc)	max. 0,1 ppb
cerium (Ce)	max. 0,1 ppb	selenium (Se)	max. 1 ppb
cesium (Cs)	max. 0,1 ppb	silver (Ag)	max. 0,5 ppb
chromium (Cr)	max. 0,5 ppb	sodium (Na)	max. 1 ppb
cobalt (Co)	max. 0,5 ppb	strontium (Sr)	max. 0,1 ppb
copper (Cu)	max. 0,5 ppb	tellurium (Te)	max. 0,1 ppb
dysprosium (Dy)	max. 0,1 ppb	terbium (Tb)	max. 0,1 ppb
erbium (Er)	max. 0,1 ppb	thallium (Tl)	max. 0,1 ppb
europium (Eu)	max. 0,1 ppb	thorium (Th)	max. 0,1 ppb
gadolinium (Gd)	max. 0,1 ppb	thulium (Tm)	max. 0,1 ppb
gallium (Ga)	max. 0,1 ppb	tin (Sn)	max. 0,5 ppb
germanium (Ge)	max. 0,1 ppb	titanium (Ti)	max. 0,5 ppb
gold (Au)	max. 0,5 ppb	tungsten (W)	max. 0,1 ppb
holmium (Ho)	max. 0,1 ppb	uranium (U)	max. 0,1 ppb
indium (In)	max. 0,1 ppb	vanadium (V)	max. 0,5 ppb
iron (Fe)	max. 1 ppb	ytterbium (Yb)	max. 0,1 ppb
lanthanum (La)	max. 0,1 ppb	yttrium (Y)	max. 0,1 ppb
lead (Pb)	max. 0,1 ppb	zinc (Zn)	max. 0,5 ppb
lithium (Li)	max. 0,1 ppb	zirconium (Zr)	max. 0,1 ppb
lutetium (Lu)	max. 0,1 ppb		

ART. NO.	VOLUME	CONTAINER
AM02690500	500 ml	

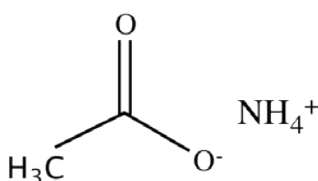
AM0272 Ammonia, solution 20 - 22%, Ultratrace®, ppt-trace analysis grade



assay (acidimetric, NH <sub>3</sub> )	20 - 22 %	mercury (Hg)	max. 200 ppb
aluminium (Al)	max. 20 ppt	molybdenum (Mo)	max. 10 ppt
antimony (Sb)	max. 10 ppt	neodymium (Nd)	max. 10 ppt
arsenic (As)	max. 10 ppt	nickel (Ni)	max. 10 ppt
barium (Ba)	max. 10 ppt	niobium (Nb)	max. 10 ppt
beryllium (Be)	max. 10 ppt	potassium (K)	max. 10 ppt
bismuth (Bi)	max. 10 ppt	praseodymium (Pr)	max. 10 ppt
cadmium (Cd)	max. 10 ppt	rhodium (Rh)	max. 10 ppt
cerium (Ce)	max. 10 ppt	rubidium (Rb)	max. 10 ppt
cesium (Cs)	max. 10 ppt	samarium (Sm)	max. 10 ppt
chromium (Cr)	max. 10 ppt	scandium (Sc)	max. 10 ppt
cobalt (Co)	max. 10 ppt	silver (Ag)	max. 10 ppt
copper (Cu)	max. 10 ppt	sodium (Na)	max. 20 ppt
dysprosium (Dy)	max. 10 ppt	strontium (Sr)	max. 10 ppt
erbium (Er)	max. 10 ppt	tellurium (Te)	max. 10 ppt
europium (Eu)	max. 10 ppt	terbium (Tb)	max. 10 ppt
gadolinium (Gd)	max. 10 ppt	thallium (Tl)	max. 10 ppt
gallium (Ga)	max. 10 ppt	thorium (Th)	max. 10 ppt
germanium (Ge)	max. 10 ppt	thulium (Tm)	max. 10 ppt
gold (Au)	max. 10 ppt	tin (Sn)	max. 10 ppt
holmium (Ho)	max. 10 ppt	titanium (Ti)	max. 10 ppt
indium (In)	max. 10 ppt	tungsten (W)	max. 10 ppt
iron (Fe)	max. 10 ppt	uranium (U)	max. 10 ppt
lanthanum (La)	max. 10 ppt	vanadium (V)	max. 10 ppt
lead (Pb)	max. 10 ppt	ytterbium (Yb)	max. 10 ppt
lithium (Li)	max. 10 ppt	yttrium (Y)	max. 10 ppt
lutetium (Lu)	max. 10 ppt	zinc (Zn)	max. 10 ppt
magnesium (Mg)	max. 10 ppt	zirconium (Zr)	max. 10 ppt
manganese (Mn)	max. 10 ppt		

ART. NO.	VOLUME	CONTAINER
AM02720250	250 ml	

## AMMONIUM ACETATE



- Synonyms: Acetic acid ammonium salt
- CH<sub>3</sub>COONH<sub>4</sub>
- M = 77,08 g/mol
- CAS [631-61-8]
- EINECS-No.: 211-162-9
- Solub. in water: (20 °C): soluble
- Melting point: 114 °C
- Flash pt. 136 °C

- Tariff number: 2915 29 00 90
- Applications: analytical chemistry, for the detection of: metals.

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**AM0253 Ammonium acetate, EssentQ®**

assay (acidimetric) . . . . . min. 96 %  
insoluble in water . . . . . max. 0,01 %  
pH (5 %, H<sub>2</sub>O) . . . . . 6,0 - 7,5  
chlorides (Cl) . . . . . max. 0,002 %  
nitrates (NO<sub>3</sub>) . . . . . max. 0,003 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %

copper (Cu) . . . . . max. 0,002 %  
heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 0,001 %  
lead (Pb) . . . . . max. 0,002 %  
nickel (Ni) . . . . . max. 0,002 %  
residue on ignition (as SO<sub>2</sub>) . . . . . max. 0,02 %  
water (K.F.) . . . . . max. 2,5 %

ART. NO.	VOLUME	CONTAINER
AM02530500	500 g	
AM02531000	1 kg	
AM0253005P	5 kg	

**AM0254 Ammonium acetate, ExpertQ®, for analysis, ACS, Reag. Ph Eur**

assay (acidimetric) . . . . . min. 98,0 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,005 %  
pH (5 %, H<sub>2</sub>O) . . . . . 6,7 - 7,3  
chlorides (Cl) . . . . . max. 5 ppm  
nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %

calcium (Ca) . . . . . max. 0,001 %  
heavy metals (as Pb) . . . . . max. 2 ppm  
iron (Fe) . . . . . max. 2 ppm  
residue on ignition . . . . . max. 0,01 %  
water (K.F.) . . . . . max. 2,0 %

ART. NO.	VOLUME	CONTAINER
AM02540500	500 g	
AM02541000	1 kg	
AM0254005P	5 kg	
AM0254025P	25 kg	

**AM0255 Ammonium acetate, HPLC grade**

assay (acidimetric) . . . . . min. 98,0 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,005 %  
pH (5 %, H<sub>2</sub>O) . . . . . 6,5 - 7,5  
chlorides (Cl) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 1 ppm  
heavy metals (as Pb) . . . . . max. 1 ppm

max. absorbance of an aqueous sol. 10 % in a 1,0 cm cell at wavelength . . . . . absorbance  
250 nm . . . . . 0,05 AU  
260 nm . . . . . 0,04 AU  
270 nm . . . . . 0,03 AU  
280 nm . . . . . 0,02 AU

ART. NO.	VOLUME	CONTAINER
AM02550250	250 g	
AM02551000	1 kg	

**AM0259 Ammonium acetate, eluent additive for LC-MS**

assay (acidimetric) . . . . . min. 99,0 %  
identity (IR-spectrum) . . . . . passes test  
aluminium (Al) . . . . . max. 1 ppm  
barium (Ba) . . . . . max. 1 ppm  
cadmium (Cd) . . . . . max. 1 ppm  
calcium (Ca) . . . . . max. 0,001%  
chromium (Cr) . . . . . max. 1 ppm  
cobalt (Co) . . . . . max. 1 ppm  
copper (Cu) . . . . . max. 1 ppm  
iron (Fe) . . . . . max. 1 ppm  
lead (Pb) . . . . . max. 1 ppm

lithium (Li) . . . . . max. 1 ppm  
magnesium (Mg) . . . . . max. 1 ppm  
manganese (Mn) . . . . . max. 1 ppm  
molybdenum (Mo) . . . . . max. 1 ppm  
nickel (Ni) . . . . . max. 1 ppm  
potassium (K) . . . . . max. 0,005 %  
sodium (Na) . . . . . max. 0,005 %  
strontium (Sr) . . . . . max. 1 ppm  
zinc (Zn) . . . . . max. 1 ppm  
Suitability for use in LC-MS . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AM02590050	50 g	

**AM0271 Ammonium acetate, molecular biology grade**

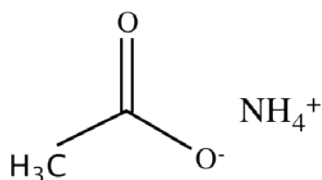
assay (acidimetric) . . . . . min. 98,0 %  
identity (IR-spectrum) . . . . . passes test  
pH (5 %, H<sub>2</sub>O) . . . . . 6,5 - 7,3  
heavy metals (as Pb) . . . . . max. 2 ppm

DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
AM02710250	250 g	
AM02710500	500 g	

**AMMONIUM ACETATE, SOLUTIONS**

**AM0230 Ammonium acetate, solution 1 mol/l, buffered at pH = 7**



- CH<sub>3</sub>COONH<sub>4</sub>
- M = 77,08 g/mol
- CAS [631-61-8]
- EINECS-No.: 211-162-9
- Tariff number: 2915 29 00 90
- Applications: analytical chemistry, laboratory reagent, in buffer solutions.

1 ml = 0,07708 g NH<sub>4</sub>CH<sub>3</sub>COO  
potassium (K) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AM02301000	1 l	
AM0230010C	10 l	

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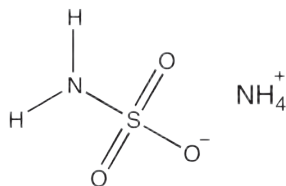
X

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## AMMONIUM AMIDOSULFONATE

AM0395 Ammonium amidosulfonate, ExpertQ®, for analysis, ACS, for determination of sulfonamides in blood



- Synonyms: Ammonium sulfamate, Amidosulfonic acid ammonium salt, Sulfanic acid ammonium salt
- $\text{NH}_4\text{NH}_2\text{SO}_3$
- M = 114,12 g/mol
- CAS [7773-06-0]
- EINECS-No.: 231-871-7
- Solub. in water: (20 °C): soluble
- Melting point: ~ 133 °C
- LD 50 (oral, rat): 3900 mg/kg
- Tariff number: 2842 90 90 00
- Applications: analytical chemistry, for the determination of sulfamides in blood.

assay (acidimetric) . . . . . min. 99 %  
 insoluble in water . . . . . max. 0,02 %  
 melting point . . . . . 132 - 134°C  
 chlorides (Cl) . . . . . max. 0,001 %  
 nitrates ( $\text{NO}_3$ ) . . . . . max. 0,002 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,02 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 residue on ignition (as  $\text{SO}_4$ ) . . . . . max. 0,05 %  
 loss on drying (105 °C) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
AM03950100	100 g	Ⓟ

## AMMONIUM BROMIDE

- $\text{NH}_4\text{Br}$
- M = 97,94 g/mol
- CAS [12124-97-9]
- EINECS-No.: 235-183-8

- Solub. in water: (20°C): 598 g/l
- Melting point: 542°C
- LD 50 (oral, rat): 2714 mg/kg
- Tariff number: 2827 59 00 00

- Applications: analytical chemistry, photography, in pharma industry.

AM0265 Ammonium bromide, extra pure, Pharmpur®, Ph Eur, BP

assay (argentometric, on dried sample) . . . . . 98,5 - 101,0 %  
 identification . . . . . passes test  
 acidity or alkalinity . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 bromates ( $\text{BrO}_3$ ) . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,6 %  
 iodides (I) . . . . . passes test  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,01%

iron (Fe) . . . . . max. 20 ppm  
 magnesium and alkaline-earth metals, (as Ca) . . . . . max. 200 ppm  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (105°C) . . . . . max. 1,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AM02650500	500 g	Ⓟ
AM02651000	1 kg	Ⓟ

AM0266 Ammonium bromide, ExpertQ®, for analysis, ACS

assay (argentometric) . . . . . min. 99,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 4,5 - 6,0  
 bromates ( $\text{BrO}_3$ ) . . . . . max. 0,002 %  
 chlorides (Cl) . . . . . max. 0,2 %  
 iodides (I) . . . . . passes test  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,005 %

arsenic (As) . . . . . max. 2 ppm  
 barium (Ba) . . . . . max. 0,002 %  
 calcium (Ca) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 3 ppm  
 heavy metals . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,002 %  
 residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AM02660500	500 g	Ⓟ

## AMMONIUM CARBONATE

- Synonyms: Salt of hartshorn
- $\text{NH}_4\text{HCO}_3 + \text{NH}_4\text{NH}_2\text{COO}$
- CAS [10361-29-2]
- EINECS-No.: 233-786-0
- Solub. in water: (20 °C): soluble

- Melting point: 58°C (decomposes)
- LD 50 (oral, rat): 1975 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302

- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2836 10 00 00
- Applications: manufacture of dyes, in the rubber industry, analytical chemistry.

AM0268 Ammonium carbonate, ExpertQ®, for analysis, ACS

assay (acidimetric,  $\text{NH}_3$ ) . . . . . min. 30,0 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,0005 %  
 arsenic (As) . . . . . max. 3 ppm  
 calcium (Ca) . . . . . max. 0,01 %

copper (Cu) . . . . . max. 0,0025 %  
 heavy metals . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,001 %  
 zinc (Zn) . . . . . max. 0,0025 %  
 sulphur compounds (as  $\text{SO}_4$ ) . . . . . max. 0,002 %  
 residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AM02680500	500 g	Ⓟ
AM02681000	1 kg	Ⓟ

AM0267 Ammonium carbonate, HPLC grade



assay (acidimetric, NH<sub>3</sub>) . . . . . min. 30,0 %  
identity (IR-spectrum) . . . . . passes test  
insoluble matter . . . . . passes test  
chlorides (Cl) . . . . . max. 0,0005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
arsenic (As) . . . . . max. 3 ppm  
copper (Cu) . . . . . max. 0,0025 %  
heavy metals . . . . . max. 0,001 %

iron (Fe) . . . . . max. 5 ppm  
lead (Pb) . . . . . max. 0,001 %  
max. absorbance of an aqueous sol. 10 % in a 1,0 cm cell at wavelength absorbance  
240 nm . . . . . 0,1 AU  
250 nm . . . . . 0,04 AU  
260 nm . . . . . 0,02 AU  
280 nm . . . . . 0,01 AU

ART. NO.	VOLUME	CONTAINER
AM02670250	250 g	0

## AMMONIUM CERIUM(IV) NITRATE

CE0050 Ammonium cerium(IV) nitrate, EssentQ®



- Synonyms: di-Ammonium hexanitratocerate (IV), Ceric ammonium nitrate
- (NH<sub>4</sub>)<sub>2</sub>[Ce(NO<sub>3</sub>)<sub>6</sub>]
- M = 548,23 g/mol
- CAS [16774-21-3]
- EINECS-No.: 240-827-6
- Solub. in water: (20 °C): soluble
- Melting point: ~ 108 °C
- ADR: 5.1 O2 II UN 1477
- IMDG: 5.1 II UN 1477
- IATA/ICAO: 5.1 II UN 1477

- GHS-signal word: Danger
- GHS-H sentences: H272 - H318
- GHS-P sentences: P221 - P210 - P220 - P280 - P305 + P351 + P338 - P501a
- Tariff number: 2846 10 00 90
- Applications: analytical chemistry, titrant in volumetric analysis.
- Appearance: Orange crystals

assay (oxidimetric) . . . . . min. 99 %

ART. NO.	VOLUME	CONTAINER
CE00500100	100 g	0
CE00501000	1 kg	0

## AMMONIUM CERIUM(IV) SULFATE DIHYDRATE

CE0060 Ammonium cerium(IV) sulfate dihydrate, EssentQ®

- Synonyms: Ceric ammonium sulfate, tetra-Ammonium-tetrasulfatocerate (IV)
- (NH<sub>4</sub>)<sub>4</sub>[Ce(SO<sub>4</sub>)<sub>4</sub>]·2H<sub>2</sub>O
- M = 632,56 g/mol
- CAS [10378-47-9]
- EINECS-No.: 231-567-4

- Solub. in water: (20 °C): hydrolysis reaction
- Tariff number: 2846 10 00 90
- Applications: for the synthesis of: inorganic salts, for determination of: cerium.

assay (oxidimetric) . . . . . min. 95 %

ART. NO.	VOLUME	CONTAINER
CE00600100	100 g	0

## AMMONIUM CHLORIDE

- Synonyms: Salt ammoniac
- NH<sub>4</sub>Cl
- M = 53,49 g/mol
- CAS [12125-02-9]
- EINECS-No.: 235-186-4
- Solub. in water: (20 °C): 372 g/l

- Melting point: 335 °C (decomposes)
- Ignition temp.: > 400 °C
- Vapour pressure: (30 °C) 1,3 hPa
- LD 50 (oral, rat): 1440 mg/kg
- EC-Index-No.: 017-014-00-8
- GHS-signal word: Warning

- GHS-H sentences: H302 - H319
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 2827 10 00 00
- Applications: manufacture of dyes, in explosive compositions, analytical chemistry.

AM0270 Ammonium chloride, extra pure, Pharmpur®, Ph Eur, BP, USP



assay (argentometric, on dried sample) 99,5 - 100,5 %  
identification . . . . . passes test  
acidity or alkalinity . . . . . passes test  
appearance of solution . . . . . clear and colourless  
pH (5 %, H<sub>2</sub>O) . . . . . 4,6 - 6,0  
bromides and iodides . . . . . passes test  
sulfates (SO<sub>4</sub>) . . . . . max. 150 ppm  
limit of thiocyanate . . . . . passes test  
calcium (Ca) . . . . . max. 200 ppm

iron (Fe) . . . . . max. 20 ppm  
residue on ignition . . . . . max. 0,1 %  
loss on drying (105 °C) . . . . . max. 1,0 %  
loss on drying (over silica gel) . . . . . max. 0,5 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AM02700500	500 g	0
AM02701000	1 kg	0
AM0270005P	5 kg	P
AM0270025P	25 kg	P

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

## AM0273 Ammonium chloride, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (argentometric) . . . . . min. 99,5 %  
 assay (argentometric, referred to  
 dried sample) . . . . . 99,5 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble matter . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,5 - 5,5  
 acidity or alkalinity . . . . . passes test  
 bromides and iodides . . . . . passes test  
 phosphates (as PO<sub>4</sub>) . . . . . max. 2 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 calcium (Ca) . . . . . max. 5 ppm

copper (Cu) . . . . . max. 2 ppm  
 heavy metals . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 2 ppm  
 lead (Pb) . . . . . max. 1 ppm  
 magnesium (Mg) . . . . . max. 5 ppm  
 nickel (Ni) . . . . . max. 1 ppm  
 potassium (K) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,005 %  
 zinc (Zn) . . . . . max. 2 ppm  
 residue on ignition . . . . . max. 1,0 %  
 residue on ignition (800 °C) . . . . . max. 0,01 %  
 loss on drying (105 °C) . . . . . max. 1,0 %

ART. NO.	VOLUME	CONTAINER
AM02730250	250 g	
AM02730500	500 g	
AM02731000	1 kg	
AM0273005P	5 kg	

## AM0274 Ammonium chloride, molecular biology grade



assay (argentometric) . . . . . min. 99,5%  
 lead (Pb) . . . . . max. 1 ppm  
 DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
AM02740500	500 g	

## AMMONIUM DICHROMATE

### AM0276 Ammonium dichromate, moistened with 0,2 - 3% H<sub>2</sub>O, EssentQ®



- Synonyms: Ammonium bichromate, Ammonium pyrochromate
- (NH<sub>4</sub>)<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>
- M = 252,07 g/mol
- CAS [7789-09-5]
- EINECS-No.: 232-143-1
- Solub. in water: (20 °C): 360 g/l
- Melting point: 180°C (decomposes, explosion reaction)
- Ignition temp.: 218 °C
- LD 50 (oral, rat): 53,75 mg/kg
- EC-Index-No.: 024-003-00-1
- ADR: 5.1 O2 II UN 1439
- IMDG: 5.1 II UN 1439
- IATA/ICAO: 5.1 II UN 1439

- GHS-signal word: Danger
- GHS-H sentences: H272 - H301 - H330 - H334 - H340 - H350 - H360FD - H372 - H314 - H400 - H410 - H312 - H317
- GHS-P sentences: P221 - P303 + P361 + P353 - P305 + P351 + P338 - P320 - P405 - P501a
- Tariff number: 2841 50 00 00
- Applications: photography, in explosive compositions, catalyst, in porcelain industry, analytical chemistry.
- Appearance: Orange crystals

assay (iodometric) . . . . . min. 97 %  
 chlorides (Cl) . . . . . max. 0,01 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,02 %  
 calcium (Ca) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,01 %  
 loss on drying (105°C) . . . . . max. 3 %

ART. NO.	VOLUME	CONTAINER
AM02760500	500 g	
AM02761000	1 kg	
AM0276005P	5 kg	

## AMMONIUM DIHYDROGEN PHOSPHATE

- Synonyms: Ammonium biphosphate, Ammonium phosphate monobasic, Primary ammonium phosphate, Monoammonium orthophosphate
- (NH<sub>4</sub>)<sub>2</sub>H<sub>2</sub>PO<sub>4</sub>
- M = 115,03 g/mol

- CAS [7722-76-1]
- EINECS-No.: 231-764-5
- Solub. in water: (20°C): 370 g/l
- Melting point: 190 °C
- LD 50 (oral, rat): 2500 mg/kg

- Tariff number: 3105 40 00 10
- Applications: in fertilizer compositions, analytical chemistry, in buffer solutions.

### AM0334 Ammonium dihydrogen phosphate, EssentQ®

assay (acidimetric) . . . . . min. 99 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,0 - 4,5  
 insoluble in water . . . . . max. 0,02 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 arsenic (As) . . . . . max. 1 ppm

copper (Cu) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AM03340500	500 g	
AM03341000	1 kg	
AM0334005P	5 kg	
AM0334025P	25 kg	

### AM0335 Ammonium dihydrogen phosphate, ExpertQ®, for analysis, ACS, Reag. Ph Eur

assay (acidimetric) . . . . . min. 98,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 pH (2,3 %, H<sub>2</sub>O) . . . . . about 4,2  
 pH (5 %, H<sub>2</sub>O) . . . . . 3,8 - 4,4  
 chlorides (Cl) . . . . . max. 5 ppm  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %

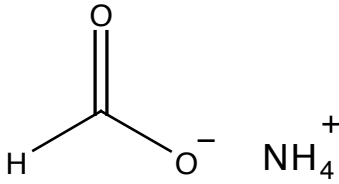
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 calcium (Ca) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 0,001 %  
 magnesium (Mg) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AM03350500	500 g	
AM03351000	1 kg	
AM0335005P	5 kg	
AM0335025P	25 kg	



**AMMONIUM FORMATE**

AM0320 Ammonium formate, eluent additive for LC-MS



- Synonyms: Formic acid ammonium salt
- HCOONH<sub>2</sub>
- M = 63,06 g/mol
- CAS [540-69-2]
- EINECS-No.: 208-753-9
- Solub. in water: (20 °C): miscible
- Melting point: 116 °C
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2915 12 00 00

assay (iodometric) . . . . .	min. 97 %
aluminium (Al) . . . . .	max. 1 ppm
barium (Ba) . . . . .	max. 1 ppm
cadmium (Cd) . . . . .	max. 1 ppm
calcium (Ca) . . . . .	max. 5 ppm
chromium (Cr) . . . . .	max. 1 ppm
cobalt (Co) . . . . .	max. 1 ppm
copper (Cu) . . . . .	max. 1 ppm
iron (Fe) . . . . .	max. 1 ppm
lead (Pb) . . . . .	max. 1 ppm
lithium (Li) . . . . .	max. 1 ppm
magnesium (Mg) . . . . .	max. 5 ppm
manganese (Mn) . . . . .	max. 1 ppm
molybdenum (Mo) . . . . .	max. 1 ppm
nickel (Ni) . . . . .	max. 1 ppm
potassium (K) . . . . .	max. 5 ppm
sodium (Na) . . . . .	max. 5 ppm
strontium (Sr) . . . . .	max. 1 ppm
zinc (Zn) . . . . .	max. 1 ppm
suitability for use in LC-MS . . . . .	passes test

ART. NO.	VOLUME	CONTAINER
AM03200050	50 g	Ⓟ

**AMMONIUM HEPTAMOLYBDATE TETRAHYDRATE**

- Synonyms: Ammonium molybdate, Hexammonium heptamolybdate 4-hydrate
- (NH<sub>4</sub>)<sub>6</sub>Mo<sub>7</sub>O<sub>24</sub>·4H<sub>2</sub>O
- M = 1235,86 g/mol

- CAS [12054-85-2]
- EINECS-No.: 234-722-4
- Solub. in water: (20 °C): 400 g/l
- Melting point: 90 °C (release of crystalline water)

- LD 50 (oral, rat): 3883 mg/kg
- Tariff number: 2841 70 00 90
- Applications: photography, in porcelain industry, analytical chemistry.

AM0349 Ammonium heptamolybdate tetrahydrate, extra pure, Phampur®, USP

assay [(NH<sub>4</sub>)<sub>6</sub>Mo<sub>7</sub>O<sub>24</sub>·4H<sub>2</sub>O] . . . . . 99,3 - 101,8 %  
 identification . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 20 ppm  
 nitrates (NO<sub>3</sub>) . . . . . passes test  
 phosphates, arseniates,  
 silicates (as PO<sub>4</sub>) . . . . . passes test

phosphates (as PO<sub>4</sub>) . . . . . max. 5 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 200 ppm  
 magnesium and alkaline salts . . . . . max. 0,02 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AM03490100	100 g	Ⓟ
AM03490250	250 g	Ⓟ
AM03491000	1 kg	Ⓟ

AM0350 Ammonium heptamolybdate tetrahydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay [(NH<sub>4</sub>)<sub>6</sub>Mo<sub>7</sub>O<sub>24</sub>·4H<sub>2</sub>O] . . . . . min. 99 %  
 assay (as MoO<sub>3</sub>) . . . . . 81,0 - 83,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 arseniates, phosphates,  
 and silicates (as SiO<sub>2</sub>) . . . . . max. 5 ppm  
 chlorides (Cl) . . . . . max. 5 ppm  
 nitrates (NO<sub>3</sub>) . . . . . passes test  
 phosphates (as PO<sub>4</sub>) . . . . . max. 5 ppm

sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,001 %  
 heavy metals . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,001 %  
 magnesium (Mg) . . . . . max. 0,005 %  
 potassium (K) . . . . . max. 0,002 %  
 sodium (Na) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AM03500100	100 g	Ⓟ
AM03500250	250 g	Ⓟ
AM03500500	500 g	Ⓟ
AM03501000	1 kg	Ⓟ

# SPE ExtraBond®



- Lot number printed on each cartridge
- Phase type printed on each cartridge
- Vacuum packed

## AMMONIUM HYDROGEN CARBONATE


AM0330 Ammonium hydrogen carbonate, ExpertQ®, for analysis, Reag. Ph Eur 

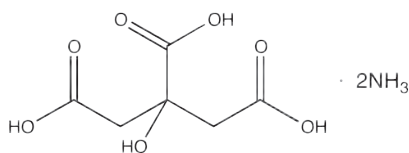
- Synonyms: Ammonium bicarbonate
- $\text{NH}_4\text{HCO}_3$
- $M = 79,06 \text{ g/mol}$
- CAS [1066-33-7]
- EINECS-No.: 213-911-5
- Solub. in water: (20 °C): 220 g/l
- Melting point: 106 °C
- Vapour pressure: (20 °C) 67 hPa
- LD 50 (oral, rat): 1576 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2836 10 00 00
- Applications: analytical chemistry, manufacture of dyes, in porcelain industry, pigment, in the textile industry.

assay (acidimetric) ..... min. 99 %  
 chlorides (Cl) ..... max. 0,0005 %  
 nitrates ( $\text{NO}_3$ ) ..... max. 0,001 %  
 phosphates (as  $\text{PO}_4$ ) ..... max. 0,0005 %  
 sulfates ( $\text{SO}_4$ ) ..... max. 0,005 %  
 sulfides (S) ..... max. 0,001 %  
 arsenic (As) ..... max. 1 ppm  
 calcium (Ca) ..... max. 0,001 %  
 cadmium (Cd) ..... max. 5 ppm  
 cobalt (Co) ..... max. 5 ppm  
 copper (Cu) ..... max. 1 ppm  
 heavy metals (as Pb) ..... max. 5 ppm  
 iron (Fe) ..... max. 1 ppm  
 lead (Pb) ..... max. 5 ppm  
 magnesium (Mg) ..... max. 0,001 %  
 nickel (Ni) ..... max. 5 ppm  
 potassium (K) ..... max. 0,001 %  
 sodium (Na) ..... max. 0,002 %  
 zinc (Zn) ..... max. 5 ppm  
 residue on ignition ..... max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AM03300500	500 g	
AM03301000	1 kg	
AM0330005P	5 kg	





## DI-AMMONIUM HYDROGEN CITRATE

AM0332 di-Ammonium hydrogen citrate, ExpertQ®, for analysis, ACS 



- Synonyms: Ammonium citrate dibasic
- $\text{C}_6\text{H}_8\text{O}_7 \cdot 2\text{NH}_3$
- $M = 226,19 \text{ g/mol}$
- CAS [3012-65-5]
- EINECS-No.: 221-146-3
- Solub. in water: (20 °C): freely soluble
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2918 15 00 90
- Applications: analytical chemistry, in fertilizer compositions, for determination of: phosphates.

assay ..... 98 - 103 %  
 insoluble matter ..... max. 0,005 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) ..... 4,7 - 5,3  
 chlorides (Cl) ..... max. 0,0005 %  
 oxalates ( $\text{C}_2\text{O}_4$ ) ..... passes test  
 phosphates (as  $\text{PO}_4$ ) ..... max. 0,0005 %  
 heavy metals (as Pb) ..... max. 5 ppm  
 iron (Fe) ..... max. 5 ppm  
 sulphur compounds (as  $\text{SO}_4$ ) ..... max. 0,005 %  
 residue on ignition ..... max. 0,01 %


ART. NO.	VOLUME	CONTAINER
AM03320500	500 g	
AM03321000	1 kg	
AM0332005P	5 kg	
AM0332025P	25 kg	

## DI-AMMONIUM HYDROGEN PHOSPHATE

- Synonyms: Ammonium biphosphate, Ammonium phosphate dibasic, Fyrex
- $(\text{NH}_4)_2\text{HPO}_4$
- $M = 132,06 \text{ g/mol}$
- CAS [7783-28-0]

- EINECS-No.: 231-987-8
- Solub. in water: (20 °C): 690 g/l
- Melting point: 155 °C (decomposes)
- GHS-signal word: Warning
- GHS-H sentences: H312 - H332


- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 3105 30 00 00
- Applications: Fire-resistant protective clothing, dentifrices, corrosion inhibitor, analytical chemistry.

AM0310 di-Ammonium hydrogen phosphate, extra pure, Pharmpur®, NF 

assay (acidimetric) ..... 96,0 - 102,0 %  
 identification ..... passes test  
 pH (1 %,  $\text{H}_2\text{O}$ ) ..... 7,6 - 8,2  
 chlorides (Cl) ..... max. 0,03 %  
 sulfates ( $\text{SO}_4$ ) ..... max. 0,15 %

arsenic (As) ..... max. 3 ppm  
 Elemental impurities are analysed according to guideline CHMP/ICH/3533369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AM03100500	500 g	
AM03101000	1 kg	
AM0310005P	5 kg	

AM0312 di-Ammonium hydrogen phosphate, ExpertQ®, for analysis, ACS 

assay (acidimetric) ..... min. 98,0 %  
 identity (IR-spectrum) ..... passes test  
 insoluble in water ..... max. 0,005 %  
 pH (5 %,  $\text{H}_2\text{O}$ , 25 °C) ..... 7,7 - 8,1  
 pH (20 %,  $\text{H}_2\text{O}$ ) ..... about 8  
 chlorides (Cl) ..... max. 5 ppm  
 nitrates ( $\text{NO}_3$ ) ..... max. 0,001 %

sulfates ( $\text{SO}_4$ ) ..... max. 0,004 %  
 calcium (Ca) ..... max. 0,001 %  
 heavy metals (as Pb) ..... max. 5 ppm  
 iron (Fe) ..... max. 0,001 %  
 magnesium (Mg) ..... max. 5 ppm  
 potassium (K) ..... max. 0,001 %  
 sodium (Na) ..... max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AM03120500	500 g	
AM03121000	1 kg	
AM0312025P	25 kg	

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## AMMONIUM IODIDE

AM0480 Ammonium iodide, EssentQ®

- NH<sub>4</sub>I
- M = 144,94 g/mol
- CAS [12027-06-4]
- EINECS-No.: 234-717-7
- Solub. in water: (20 °C): soluble
- Melting point: 405 °C
- Tariff number: 2827 60 00 90
- Applications: analytical chemistry, laboratory reagent, photography.

assay (argentometric) . . . . . min. 99 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,5 - 6,5  
 chlorides and bromides (as Cl) . . . . . max. 0,02 %  
 iodates (IO<sub>3</sub>) . . . . . max. 0,01 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . max. 0,01 %  
 arsenic (As) . . . . . max. 0,0005 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %  
 residue on ignition . . . . . max. 0,1 %

loss on drying (105 °C). . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
AM04800250	250 g	0

## AMMONIUM IRON(II) SULFATE HEXAHYDRATE

- Synonyms: Iron(II) ammonium sulfate, Ferrous ammonium sulfate, Mohr's salt
- (NH<sub>4</sub>)<sub>2</sub>Fe(SO<sub>4</sub>)<sub>2</sub>·6H<sub>2</sub>O
- M = 392,14 g/mol

- CAS [7783-85-9]
- EINECS-No.: 233-151-8
- Solub. in water: (20 °C): 269 g/l
- Melting point: 100 °C

- Tariff number: 2842 90 80 00
- Applications: analytical chemistry, synthesis of polymers, photography.

HI0314 Ammonium iron(II) sulfate hexahydrate, EssentQ®

assay (permanganometric) . . . . . 98 - 101 %  
 insoluble in diluted H<sub>2</sub>SO<sub>4</sub> . . . . . max. 0,01 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,005 %  
 calcium (Ca) . . . . . max. 0,02 %  
 copper (Cu) . . . . . max. 0,002 %

iron (III) (Fe (III)) . . . . . max. 0,05 %  
 magnesium (Mg) . . . . . max. 0,02 %  
 potassium (K) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,01 %  
 zinc (Zn) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
HI03140500	500 g	P
HI03141000	1 kg	P
HI0314005P	5 kg	P

HI0316 Ammonium iron(II) sulfate hexahydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay (permanganometric) . . . . . 99,0 - 101,5 %  
 insoluble in diluted H<sub>2</sub>SO<sub>4</sub> . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 3,0 - 5,0  
 chlorides (Cl) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,002 %  
 calcium (Ca) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 0,002 %

iron (III) (Fe (III)) . . . . . max. 0,01 %  
 lead (Pb) . . . . . max. 0,001 %  
 magnesium (Mg) . . . . . max. 0,002 %  
 manganese (Mn) . . . . . max. 0,01 %  
 potassium (K) . . . . . max. 0,002 %  
 sodium (Na) . . . . . max. 0,01 %  
 zinc (Zn) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
HI03160500	500 g	P
HI03161000	1 kg	P
HI0316005P	5 kg	P

## AMMONIUM IRON(II) SULFATE, VOLUMETRIC SOLUTIONS

HI0318 Ammonium iron(II) sulfate, solution ~ 0,12 mol/l (0,12 N), for COD determination, according to ISO 6060

- (NH<sub>4</sub>)<sub>2</sub>Fe(SO<sub>4</sub>)<sub>2</sub>·6H<sub>2</sub>O
- M = 392,13 g/mol
- CAS [7783-85-9]
- EINECS-No.: 233-151-8
- Density: 1,025 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 2833 29 90 00
- Applications: determining COD.

titer . . . . . 0,119 - 0,129 mol/l  
 uncertainty . . . . . ± 0,001  
 1 ml = 0,047056 g (NH<sub>4</sub>)<sub>2</sub>Fe(SO<sub>4</sub>)<sub>2</sub>·6H<sub>2</sub>O  
 This volumetric solution was checked by means of volumetric methods using a potassium dichromate standard solution, that was also checked against Scharlab's sodium thiosulfate standard solution. Scharlab's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
HI03181000	1 l	P

## AMMONIUM IRON(III) SULFATE DODECAHYDRATE

- Synonyms: Iron(III) ammonium sulfate, Alum iron, Ferric ammonium alum, Iron alum
- NH<sub>4</sub>Fe(SO<sub>4</sub>)<sub>3</sub>·12H<sub>2</sub>O
- M = 482,19 g/mol

- CAS [7783-83-7]
- EINECS-No.: 233-382-4
- Solub. in water: (25 °C): 1240 g/l
- Melting point: 39 - 41 °C

- Tariff number: 2833 30 00 00
- Applications: analytical chemistry, laboratory reagent.

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## HI0312 Ammonium iron(III) sulfate dodecahydrate, EssentQ®

assay (iodometric) . . . . .	97,0 - 102,0 %	copper (Cu) . . . . .	max. 0,005 %
identity (IR-spectrum) . . . . .	passes test	iron (II) (Fe (II)) . . . . .	max. 0,002 %
insoluble in water . . . . .	max. 0,01 %	lead (Pb) . . . . .	max. 0,002 %
chlorides (Cl) . . . . .	max. 0,005 %	magnesium (Mg) . . . . .	max. 0,03 %
calcium (Ca) . . . . .	max. 0,03 %	zinc (Zn) . . . . .	max. 0,005 %

ART. NO.	VOLUME	CONTAINER
HI03120500	500 g	
HI03121000	1 kg	
HI0312025P	25 kg	

## HI0315 Ammonium iron(III) sulfate dodecahydrate, ExpertQ®, for analysis, ACS, ISO

assay (iodometric) . . . . .	99,0 - 102,0 %	iron (II) (Fe (II)) . . . . .	max. 0,001 %
identity (IR-spectrum) . . . . .	passes test	lead (Pb) . . . . .	max. 5 ppm
insoluble in water . . . . .	max. 0,005 %	magnesium (Mg) . . . . .	max. 0,001 %
insoluble in HCl . . . . .	max. 0,01 %	manganese (Mn) . . . . .	max. 0,005 %
chlorides (Cl) . . . . .	max. 5 ppm	potassium (K) . . . . .	max. 0,01 %
nitrates (NO <sub>3</sub> ) . . . . .	max. 0,01 %	sodium (Na) . . . . .	max. 0,01 %
calcium (Ca) . . . . .	max. 0,01 %	zinc (Zn) . . . . .	max. 0,001 %
copper (Cu) . . . . .	max. 0,001 %		

ART. NO.	VOLUME	CONTAINER
HI03150500	500 g	
HI03151000	1 kg	
HI0315005P	5 kg	
HI0315025P	25 kg	

## AMMONIUM IRON(III) SULFATE, SATURATED SOLUTION

### HI0319 Ammonium iron(III) sulfate, saturated solution

<ul style="list-style-type: none"> <li>NH<sub>4</sub>Fe(SO<sub>4</sub>)<sub>2</sub>·12H<sub>2</sub>O</li> <li>M = 482,19 g/mol</li> <li>CAS [7783-83-7]</li> <li>EINECS-No.: 233-382-4</li> <li>Density: ~ 1,18 g/cm<sup>3</sup></li> <li>Solub. in water: (20 °C): miscible</li> </ul>	<ul style="list-style-type: none"> <li>Tariff number: 2833 30 00 00</li> <li>composition:</li> <li>ammonium iron (III) sulfate 12-hydrate . . . . . 500 g</li> <li>sulfuric acid 96 % . . . . . 1 ml</li> <li>water to make 1 liter</li> </ul>
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ART. NO.	VOLUME	CONTAINER
HI03191000	1 l	

## AMMONIUM IRON(III) SULFATE, VOLUMETRIC SOLUTIONS

### HI0317 Ammonium iron(III) sulfate, solution 0,1 mol/l (0,1 N)

<ul style="list-style-type: none"> <li>NH<sub>4</sub>Fe(SO<sub>4</sub>)<sub>2</sub>·12H<sub>2</sub>O</li> <li>M = 482,19 g/mol</li> <li>CAS [7783-83-7]</li> <li>EINECS-No.: 233-382-4</li> <li>Density: 1,025 g/cm<sup>3</sup></li> <li>Tariff number: 2833 30 00 00</li> <li>Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.</li> </ul>	<ul style="list-style-type: none"> <li>factor . . . . . 0,995 - 1,005</li> <li>uncertainty ± 0,003</li> <li>1 ml = 0,04822 g (NH<sub>4</sub>)Fe(SO<sub>4</sub>)<sub>2</sub>·12H<sub>2</sub>O</li> <li>This volumetric solution was checked by means of potentiometric methods using a sodium thiosulfate standard solution, that was also checked against Scharlau's potassium iodate volumetric standard.</li> </ul>
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Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
HI03171000	1 l	

## AMMONIUM MONOVANADATE

<ul style="list-style-type: none"> <li>Synonyms: Ammonium metavanadate, Ammonium vanadate</li> <li>NH<sub>4</sub>VO<sub>3</sub></li> <li>M = 116,98 g/mol</li> <li>CAS [7803-55-6]</li> <li>EINECS-No.: 232-261-3</li> <li>Solub. in water: (15 °C): 5,2 g/l</li> </ul>	<ul style="list-style-type: none"> <li>Melting point: ~ 200 °C (decomposes)</li> <li>LD 50 (oral, rat): 169 mg/kg</li> <li>ADR: 6.1 T5 II UN 2859</li> <li>IMDG: 6.1 II UN 2859</li> <li>IATA/ICAO: 6.1 II UN 2859</li> <li>GHS-signal word: Danger</li> </ul>	<ul style="list-style-type: none"> <li>GHS-H sentences: H301 - H332 - H315 - H319 - H335</li> <li>GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a</li> <li>Tariff number: 2841 90 30 00</li> <li>Applications: for the identification of: phosphates, analytical chemistry.</li> </ul>
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### AM0465 Ammonium monovanadate, EssentQ®

assay (permanganometric) . . . . .	min. 99,0 %
identity (IR-spectrum) . . . . .	passes test
solubility in ammonium hydroxide . . . . .	passes test

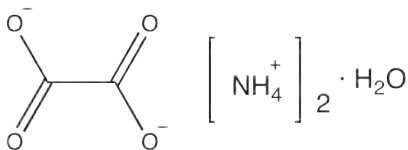
ART. NO.	VOLUME	CONTAINER
AM04650250	250 g	

### AM0467 Ammonium monovanadate, ExpertQ®, for analysis, ACS

assay (permanganometric) . . . . .	min. 99,5 %	cobalt (Co) . . . . .	max. 0,002 %
solubility in ammonium hydroxide . . . . .	passes test	copper (Cu) . . . . .	max. 0,001 %
carbonates (CO <sub>3</sub> ) . . . . .	passes test	iron (Fe) . . . . .	max. 0,001 %
chlorides (Cl) . . . . .	max. 0,2 %	lead (Pb) . . . . .	max. 0,002 %
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,005 %	nickel (Ni) . . . . .	max. 0,002 %
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,05 %	zinc (Zn) . . . . .	max. 0,001 %
cadmium (Cd) . . . . .	max. 0,001 %		

ART. NO.	VOLUME	CONTAINER
AM04670100	100 g	
AM04670250	250 g	
AM04670500	500 g	

## DI-AMMONIUM OXALATE MONOHYDRATE



- Synonyms: Oxalic acid ammonium salt
- $(\text{NH}_4)_2\text{C}_2\text{O}_4 \cdot \text{H}_2\text{O}$
- M = 142,11 g/mol
- CAS [6009-70-7]
- EINECS-No.: 214-202-3
- Solub. in water: (20 °C): ~ 45 g/l
- Melting point: 70 °C
- EC-Index-No.: 607-007-00-3
- ADR: 6.1 T2 III UN 2811

- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312
- GHS-P sentences: P280 - P264 - P270 - P322 - P363 - P501a
- Tariff number: 2917 11 00 99
- Applications: analytical chemistry, for determination of: calcium, lead, rare earth metals.

### AM0364 di-Ammonium oxalate monohydrate, EssentQ®



assay (permanganometric) . . . . .min. 99 %  
insoluble in water . . . . .max. 0,02 %  
pH (2,5 %, H<sub>2</sub>O) . . . . . 6 - 7  
chlorides (Cl) . . . . .max. 0,005 %  
phosphates (as PO<sub>4</sub>) . . . . .max. 0,01 %  
sulfates (SO<sub>4</sub>) . . . . .max. 0,01 %  
nitrates (NO<sub>3</sub>) . . . . .max. 0,005 %  
arsenic (As) . . . . .max. 0,00005 %

calcium (Ca) . . . . .max. 0,002 %  
copper (Cu) . . . . .max. 0,002 %  
heavy metals (as Pb) . . . . .max. 0,002 %  
iron (Fe) . . . . .max. 0,002 %  
lead (Pb) . . . . .max. 0,002 %  
nickel (Ni) . . . . .max. 0,002 %  
residue on ignition (as SO<sub>4</sub>) . . . . .max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AM03640500	500 g	
AM03641000	1 kg	
AM0364005P	5 kg	
AM0364025P	25 kg	

### AM0365 di-Ammonium oxalate monohydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (permanganometric) . . . . . 99 - 101 %  
insoluble in water . . . . .max. 0,005 %  
pH (2,5 %, H<sub>2</sub>O) . . . . . 6 - 7  
chlorides (Cl) . . . . .max. 0,0005 %  
nitrates (NO<sub>3</sub>) . . . . .max. 0,0005 %  
sulfates (SO<sub>4</sub>) . . . . .max. 0,002 %  
cadmium (Cd) . . . . .max. 0,0005 %  
calcium (Ca) . . . . .max. 0,001 %  
copper (Cu) . . . . .max. 0,0005 %

heavy metals (as Pb) . . . . .max. 0,0005 %  
iron (Fe) . . . . .max. 0,0002 %  
lead (Pb) . . . . .max. 0,0005 %  
magnesium (Mg) . . . . .max. 0,001 %  
potassium (K) . . . . .max. 0,001 %  
sodium (Na) . . . . .max. 0,001 %  
zinc (Zn) . . . . .max. 0,0005 %  
residue on ignition (as SO<sub>4</sub>) . . . . .max. 0,02 %

ART. NO.	VOLUME	CONTAINER
AM03650250	250 g	
AM03650500	500 g	
AM03651000	1 kg	

## AMMONIUM PEROXODISULFATE

- Synonyms: Ammonium persulfate, Peroxodisulfuric acid diammonium salt
- $(\text{NH}_4)_2\text{S}_2\text{O}_8$
- M = 228,20 g/mol
- CAS [7727-54-0]
- EINECS-No.: 231-786-5
- Solub. in water: (20 °C): 620 g/l
- Melting point: 120 °C (decomposes)

- LD 50 (oral, rat): 495 mg/kg
- EC-Index-No.: 016-060-00-6
- ADR: 5.1 O2 III UN 1444
- IMDG: 5.1 III UN 1444
- IATA/ICAO: 5.1 III UN 1444
- GHS-signal word: Danger
- GHS-H sentences: H334 - H272 - H302 - H335 - H315 - H319 - H317

- GHS-P sentences: P221 - P210 - P285 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2833 40 00 00
- Applications: analytical chemistry, synthesis of polymers.
- Appearance: White to light yellow powder

### AM0370 Ammonium peroxodisulfate, EssentQ®, Reag. Ph Eur



assay (iodometric) . . . . .min. 98 %  
insoluble in water . . . . .max. 0,02 %  
chlorides and chlorates (as Cl) . . . . .max. 0,005 %  
copper (Cu) . . . . .max. 0,005 %  
heavy metals (as Pb) . . . . .max. 0,003 %

iron (Fe) . . . . .max. 0,001 %  
lead (Pb) . . . . .max. 0,001 %  
manganese (Mn) . . . . .max. 2 ppm  
nickel (Ni) . . . . .max. 0,005 %  
residue on ignition (as SO<sub>4</sub>) . . . . .max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AM03701000	1kg	
AM0370005P	5 kg	

### AM0371 Ammonium peroxodisulfate, molecular biology grade



assay (iodometric) . . . . .min. 98 %  
chlorides (Cl) . . . . .max. 0,001 %  
heavy metals (as Pb) . . . . .max. 0,005 %  
iron (Fe) . . . . .max. 0,001 %

DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
AM03710025	25 g	
AM03710100	100 g	

## AMMONIUM SULFATE

- Synonyms: Sulfuric acid diammonium salt
- $(\text{NH}_4)_2\text{SO}_4$
- M = 132,14 g/mol
- CAS [7783-20-2]
- EINECS-No.: 231-984-1

- Solub. in water: (20 °C): 754 g/l
- Melting point: 280 °C (decomposes)
- LD 50 (oral, rat): 4250 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335

- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3102 21 00 00
- Applications: analytical chemistry, manufacture of alums.



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## AM0398 Ammonium sulfate, EssentQ®



assay (acidimetric) . . . . . min. 99,0 %  
 identity (IR-spectrum) . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,5 - 6,0  
 chlorides (Cl) . . . . . max. 0,002 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,002 %  
 arsenic (As) . . . . . max. 3 ppm

copper (Cu) . . . . . max. 0,002 %  
 heavy metals . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,002 %  
 residue on ignition . . . . . max. 0,05 %  
 loss on drying (105°C) . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
AM03981000	1 kg	P
AM0398005P	5 kg	P
AM0398025P	25 kg	P

## AM0400 Ammonium sulfate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (acidimetric) . . . . . min. 99,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble matter . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 5,0 - 6,0  
 chlorides (Cl) . . . . . max. 3 ppm  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 5 ppm  
 arsenic (As) . . . . . max. 0,2 ppm  
 cadmium (Cd) . . . . . max. 1 ppm

calcium (Ca) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 2 ppm  
 heavy metals . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 2 ppm  
 lead (Pb) . . . . . max. 2 ppm  
 magnesium (Mg) . . . . . max. 5 ppm  
 zinc (Zn) . . . . . max. 1 ppm  
 residue on ignition . . . . . max. 0,005 %  
 loss on drying (105°C) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AM04000500	500 g	P
AM04001000	1 kg	P
AM0400005P	5 kg	P
AM0400025P	25 kg	P

## AM0401 Ammonium sulfate, molecular biology grade



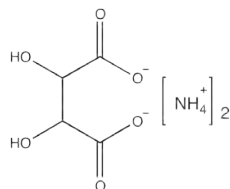
assay (acidimetric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 5,0 - 6,0  
 chlorides (Cl) . . . . . max. 5 ppm  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 5 ppm  
 arsenic (As) . . . . . max. 1 ppm  
 cadmium (Cd) . . . . . max. 1 ppm  
 calcium (Ca) . . . . . max. 0,001 %

copper (Cu) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 2 ppm  
 lead (Pb) . . . . . max. 1 ppm  
 zinc (Zn) . . . . . max. 1 ppm  
 absorbance of an aqueous solution  
 0,1 M in a 1 cm cell at 260 nm . . . . . max. 0,010 AU  
 absorbance of an aqueous solution  
 0,1 M in a 1 cm cell at 280 nm . . . . . max. 0,010 AU  
 residue on ignition . . . . . max. 0,01 %  
 DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
AM04010100	100 g	P
AM04011000	1 kg	P
AM0401005P	5 kg	P
AM0401025P	25 kg	P

## DI-AMMONIUM TARTRATE

### AM0410 di-Ammonium tartrate, ExpertQ®, for analysis



- Synonyms: Tartaric acid diammonium salt
- C<sub>4</sub>H<sub>12</sub>N<sub>2</sub>O<sub>6</sub>
- M = 184,15 g/mol
- CAS [3164-29-2]
- EINECS-No.: 221-618-9
- Solub. in water: (15 °C): 63 g/l
- Tariff number: 2918 13 00 90
- Applications: analytical chemistry, laboratory reagent.

assay (acidimetric) . . . . . min. 99 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 5,5 - 7,0  
 chlorides (Cl) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 arsenic (As) . . . . . max. 0,5 ppm  
 copper (Cu) . . . . . max. 0,0005 %  
 heavy metals (as Pb) . . . . . max. 0,0005 %  
 iron (Fe) . . . . . max. 0,0005 %  
 lead (Pb) . . . . . max. 0,0005 %  
 nickel (Ni) . . . . . max. 0,0005 %  
 residue on ignition (as SO<sub>3</sub>) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AM04100500	500 g	P

## AMMONIUM THIOCYANATE

### AM0419 Ammonium thiocyanate, ExpertQ®, for analysis, ACS, ISO



- Synonyms: Ammonium sulfocyanide, Ammonium sulfocyanate, Ammonium rhodanide, Thiocyanic acid ammonium salt
- NH<sub>4</sub>SCN
- M = 76,12 g/mol
- CAS [1762-95-4]
- EINECS-No.: 217-175-6
- Solub. in water: (20 °C): soluble
- Melting point: 150 °C
- Boiling point: 170 °C (decomposes)
- LD 50 (oral, rat): 500 mg/kg
- EC-Index-No.: 615-004-00-3
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H332 - EUH032
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a

- Tariff number: 2842 90 80 80
  - Applications: analytical chemistry, synthesis of organic products, photography.
- assay (argentometric) . . . . . min. 99 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,8 - 5,8  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfides (S) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0025 %  
 copper (Cu) . . . . . max. 4 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 1 ppm  
 lead (Pb) . . . . . max. 4 ppm  
 I<sub>2</sub> consuming substances . . . . . max. 0,004 meq/g  
 residue on ignition (as SO<sub>3</sub>) . . . . . max. 0,025 %

ART. NO.	VOLUME	CONTAINER
AM04190500	500 g	P
AM04191000	1 kg	P
AM0419005P	5 kg	P
AM0419025P	25 kg	P

## AMMONIUM THIOCYANATE, VOLUMETRIC SOLUTIONS

### AM0420 Ammonium thiocyanate, solution 0,1 mol/l (0,1 N)

- $\text{NH}_4\text{SCN}$
- $M = 76,12 \text{ g/mol}$
- CAS [1762-95-4]
- EINECS-No.: 217-175-6
- Density:  $1,00 \text{ g/cm}^3$
- LD 50 (oral, rat):  $500 \text{ mg/kg}$  (pure substance)
- EC-Index-No.: 615-004-00-3
- Tariff number: 2842 90 80 80
- Applications: analytical chemistry, laboratory reagent.

factor: ..... 0,999 - 1,001  
uncertainty  $\pm 0,001$   
 $1 \text{ ml} = 0,007612 \text{ g NH}_4\text{SCN}$   
This volumetric solution was checked by means of potentiometric methods using a silver nitrate standard solution, that was also checked against Scharlau's potassium chloride volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AM04201000	1 l	

### AM0418 Ammonium thiocyanate, concentrated solution to prepare 1 l of solution 0,1 mol/l (0,1 N)

- $\text{NH}_4\text{SCN}$
- $M = 76,12 \text{ g/mol}$
- CAS [1762-95-4]
- EINECS-No.: 217-175-6
- Density:  $1,03 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat):  $500 \text{ mg/kg}$  (pure substance)

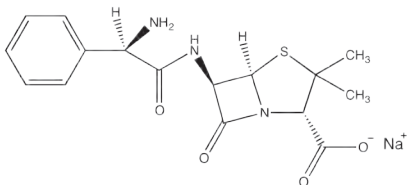
- EC-Index-No.: 615-004-00-3
- GHS-H sentences: EUH031
- Tariff number: 2842 90 80 80
- Applications: analytical chemistry, for determination of: metals.

amount of substance:  $7,6120 \text{ g NH}_4\text{SCN}$   
concentrated solution .....  $1 \text{ mol/l} \pm 0,1 \%$

ART. NO.	VOLUME	CONTAINER
AM041800PA	u.	

## AMPICILLINE, SODIUM SALT

### AM0468 Ampicilline, sodium salt, for biochemical purposes



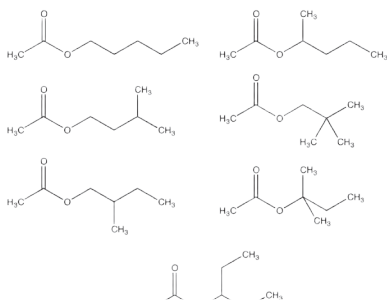
- Synonyms: D(-)- $\alpha$ -Aminobenzylpenicillin sodium salt
- $\text{C}_{16}\text{H}_{18}\text{N}_2\text{NaO}_4\text{S}$
- $M = 371,39 \text{ g/mol}$
- CAS [69-52-3]
- EINECS-No.: 200-708-1
- Melting point:  $238 \text{ }^\circ\text{C}$
- LD 50 (oral, rat):  $> 5314 \text{ mg/kg}$
- GHS-signal word: Danger
- GHS-H sentences: H334 - H335 - H315 - H319 - H317
- GHS-P sentences: P285 - P261 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2941 10 20 90
- Applications: in biochemistry, antibacterian, for pharmaceutical use.

assay (titration with  $\text{HClO}_4$ ) ..... min. 98 %  
specific rotation ( $[\alpha]_{20}^{20}/D$ ;  
 $c = 0,2, \text{H}_2\text{O}$ ) .....  $+ 258 \text{ }^\circ - + 287 \text{ }^\circ$

ART. NO.	VOLUME	CONTAINER
AM04680005	5 g	
AM04680025	25 g	

## AMYL ACETATE, MIXTURE OF ISOMERS

### AC0075 Amyl acetate, mixture of isomers, EssentQ®

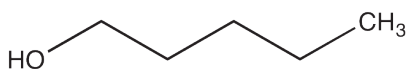


- $\text{C}_7\text{H}_{14}\text{O}_2$
- $M = 130,19 \text{ g/mol}$
- CAS [628-63-7]
- EINECS-No.: 211-047-3
- Density:  $0,87 \text{ g/cm}^3$
- Solub. in water: (20 °C): 2 - 10 g/l
- Melting point:  $\sim -70 \text{ }^\circ\text{C}$
- Boiling point:  $\sim 149 \text{ }^\circ\text{C}$
- Flash pt.  $25 \text{ }^\circ\text{C}$
- Ignition temp.:  $375 \text{ }^\circ\text{C}$
- Vapour pressure: 6 hPa (20°C)
- Refraction index: (n 20 °C/D) 1,402
- LD 50 (oral, rat):  $> 5000 \text{ mg/kg}$
- EC-Index-No.: 607-130-00-2 [1]
- ADR: 3 F1 III UN 1104
- IMDG: 3 III UN 1104
- IATA/ICAO: 3 III UN 1104
- GHS-signal word: Warning
- GHS-H sentences: H226 - EUH066
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2915 39 30 00
- Applications: solvents, perfumery, photography, painting.

total content of isomers (G.C.) ..... min. 98 %  
residue on evaporation ..... max. 0,005 %  
water (K.F.) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC00751000	1 l	

## n-AMYL ALCOHOL



- Synonyms: 1-Pentanol, 1-Pentyl alcohol, n-Butyl carbinol
- C<sub>5</sub>H<sub>12</sub>O
- M = 88,15 g/mol
- CAS [71-41-0]
- EINECS-No.: 200-752-1
- Density: 0,81 g/cm<sup>3</sup>
- Solub. in water: (20°C): 27 g/l
- Melting point: -79 °C
- Boiling point: 138 °C
- Flash pt. 33 °C
- Ignition temp.: 300 °C
- Vapour pressure: (20 °C) 3 hPa
- Refraction index: (n 20 °C/D) 1,4100

- Dielectric const.: (25°C) 13,9
- LD 50 (oral, rat): 3670 mg/kg
- EC-Index-No.: 603-006-00-7
- ADR: 3 F1 III UN 1105
- IMDG: 3 III UN 1105
- IATA/ICAO: 3 III UN 1105
- GHS-signal word: Warning
- GHS-H sentences: H226 - H332 - H315 - H335
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P321 - P405 - P501a
- Tariff number: 2905 19 00 98
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products, solvents.

### AL0127 n-Amyl alcohol, EssentQ®



assay (G.C.) . . . . .min. 99 %  
 identity (IR-spectrum) . . . . .passes test  
 density (20°/4°) . . . . .0,814 - 0,816  
 residue on evaporation . . . . .max. 0,005 %  
 water (K.F.) . . . . .max. 0,3 %

ART. NO.	VOLUME	CONTAINER
AL01271000	1 l	0
AL01272500	2,5 l	0

ART. NO.	VOLUME	CONTAINER
AL0127005P	5 l	0

### AL0128 n-Amyl alcohol, ExpertQ®, for analysis



assay (G.C.) . . . . .min. 99 %  
 identity (IR-spectrum) . . . . .passes test  
 density (20°/4°) . . . . .0,814 - 0,816  
 free acid (as CH<sub>3</sub>COOH) . . . . .max. 0,005 %  
 aluminium (Al) . . . . .max. 0,5 ppm  
 barium (Ba) . . . . .max. 0,1 ppm  
 boron (B) . . . . .max. 0,02 ppm  
 cadmium (Cd) . . . . .max. 0,05 ppm  
 calcium (Ca) . . . . .max. 0,5 ppm  
 chromium (Cr) . . . . .max. 0,02 ppm  
 cobalt (Co) . . . . .max. 0,02 ppm  
 copper (Cu) . . . . .max. 0,02 ppm

iron (Fe) . . . . .max. 0,1 ppm  
 lead (Pb) . . . . .max. 0,1 ppm  
 magnesium (Mg) . . . . .max. 0,1 ppm  
 manganese (Mn) . . . . .max. 0,02 ppm  
 nickel (Ni) . . . . .max. 0,02 ppm  
 tin (Sn) . . . . .max. 0,1 ppm  
 zinc (Zn) . . . . .max. 0,1 ppm  
 valeric aldehyde (G.C.) . . . . .max. 0,05 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . .passes test  
 residue on evaporation . . . . .max. 0,002 %  
 water (K.F.) . . . . .max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AL01281000	1 l	0
AL01282500	2,5 l	0

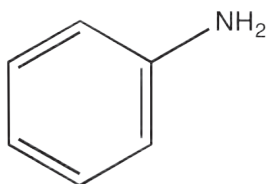
### AL0126 n-Amyl alcohol, standard substance for GC



assay . . . . .99,8%  
 over ramp . . . . .60°C, 6°C/min 160°C, 20°C/min 220°C  
 identity . . . . .IR

ART. NO.	VOLUME	CONTAINER
AL01260005	5 ml	0

## ANILINE



- Synonyms: Phenylamine, Aminobenzene
- C<sub>6</sub>H<sub>7</sub>N
- M = 93,13 g/mol
- CAS [62-53-3]
- EINECS-No.: 200-539-3
- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 36 g/l
- Melting point: -6,2 °C
- Boiling point: (20 hPa) 77 °C
- Flash pt. 76 °C
- Ignition temp.: 540 °C
- Vapour pressure: (20 °C) 0,5 hPa
- Refraction index: (n 20 °C/D) 1,5863
- Dielectric const.: (20 °C) 6,8
- LD 50 (oral, rat): 572 mg/kg

- EC-Index-No.: 612-008-00-7
- ADR: 6.1 T1 II UN 1547
- IMDG: 6.1 II UN 1547
- IATA/ICAO: 6.1 II UN 1547
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H331 - H372 - H341 - H351 - H318 - H400 - H317
- GHS-P sentences: P260 - P305 + P351 + P338 - P361 - P321 - P405 - P501a
- Tariff number: 2921 41 00 00
- Applications: manufacture of dyes, for pharmaceutical use, in the rubber industry, manufacturing of synthetic resins, analytical chemistry, solvents.

### AN0345 Aniline, EssentQ®



assay (G.C.) . . . . .min. 99 %  
 identity (IR-spectrum) . . . . .passes test  
 density (20°/4°) . . . . .1,021 - 1,023  
 residue on ignition . . . . .max. 0,01 %

water (K.F.) . . . . .max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AN03451000	1 l	0
AN0345025A	25 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

AN0347 Aniline, ExpertQ®, for analysis, ACS



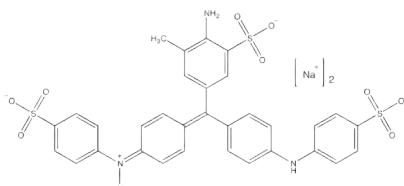
assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,020 - 1,022  
colour (Hazen) . . . . . max. 250  
chlorobenzene (G.C.) . . . . . max. 0,01 %

nitrobenzene (G.C.) . . . . . max. 0,003 %  
hydrocarbons . . . . . passes test  
residue on ignition . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AN03470100	100 ml	0
AN03470250	250 ml	0
AN03471000	1 l	0

## ANILINE BLUE, C.I. 42755

AZ0100 Aniline blue, C.I. 42755, for microscopy

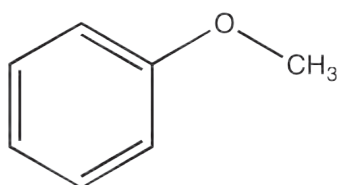


- Synonyms: Acid blue 22
- $C_{32}H_{25}N_3Na_2O_9S_3$
- M = 737,72 g/mol
- CAS [28631-66-5]
- EINECS-No.: 249-113-9
- Solub. in water: (20 °C): soluble
- Tariff number: 3204 12 00 00
- Applications: stain for electron microscopy.

Absorption maximum  $\lambda$  (in H<sub>2</sub>O) . . . . . 595 - 605 nm  
Absorptivity (A1%/1 cm;  $\lambda$  max.) . . . . . 250 - 500  
related substances (TLC) . . . . . passes test  
loss on drying (110 °C) . . . . . max. 7 %

ART. NO.	VOLUME	CONTAINER
AZ01000025	25 g	0

## ANISOLE



- Synonyms: Methoxybenzene, Methyl phenyl ether
- $C_7H_8O$
- M = 108,14 g/mol
- CAS [100-66-3]
- EINECS-No.: 202-876-1
- Density: 0,99 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 1,5 - 1,7 g/l
- Melting point: -37°C
- Boiling point: 156°C
- Flash pt. 44°C
- Ignition temp.: 475°C
- Vapour pressure: (20 °C) 3,5 hPa
- Refraction index: (n 20°C/D) 1,5168

- Dielectric const.: (25°C) 4,3
- LD 50 (oral, rat): 3700 mg/kg
- ADR: 3 F1 III UN 2222
- IMDG: 3 III UN 2222
- IATA/ICAO: 3 III UN 2222
- GHS-signal word: Warning
- GHS-H sentences: H226
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2909 30 90 90
- Applications: perfumery, synthesis of organic products.

AN0400 Anisole, EssentQ®



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,993 - 0,994  
residue on ignition . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
AN04000250	250 ml	0

ART. NO.	VOLUME	CONTAINER
AN04001000	1 l	0

AN0401 Anisole, standard substance for GC



assay . . . . . 99,9%  
over ramp . . . . . 60°C, 6°C/min 160°C, 20°C/min 220°C  
identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
AN04010005	5 ml	0

## ANTIMONY

AN0420 Antimony, powder, EssentQ®



- Sb
- M = 121,75 g/mol
- CAS [7440-36-0]
- EINECS-No.: 231-146-5
- Solub. in water: (20 °C): insoluble
- Melting point: 630 °C
- Boiling point: 1637 °C
- LD 50 (oral, rat): 7000 mg/kg
- GHS-signal word: Warning

- GHS-H sentences: H335
- GHS-P sentences: P261 - P271 - P304 + P340 - P405 - P403 + P233 - P501a
- Tariff number: 8110 10 00 90
- Applications: for the synthesis of: alloys; electrolyte for batteries, analytical chemistry.

assay . . . . . min. 99 %  
copper (Cu) . . . . . max. 0,05 %  
iron (Fe) . . . . . max. 0,05 %  
lead (Pb) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AN04200100	100 g	0

## ANTIMONY(III) OXIDE

AN0450 Antimony(III) oxide, EssentQ®



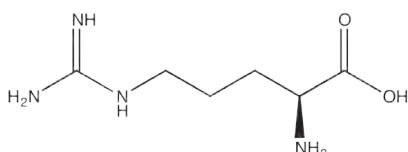
- Synonyms: di-Antimony trioxide
- $Sb_2O_3$
- $M = 291,50 \text{ g/mol}$
- CAS [1309-64-4]
- EINECS-No.: 215-175-0
- Solub. in water: (20 °C): 2,70 mg/l
- Melting point: 656 °C (sublimes)
- Vapour pressure: (574 °C) 1,3 hPa
- LD 50 (oral, rat): > 20000 mg/kg
- EC-Index-No.: 051-005-00-X
- GHS-signal word: Warning
- GHS-H sentences: H351
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2825 80 00 00
- Applications: manufacture of dyes, analytical chemistry.

assay (iodometric) ..... min. 99 %

ART. NO.	VOLUME	CONTAINER
AN0450005P	5 kg	

## L-ARGININE

AR0120 L-Arginine, extra pure, Pharmapur®, Ph Eur, BP, USP



- Synonyms: 2-Amino-5-guanidinovaleric acid
- $C_6H_{14}N_4O_2$
- $M = 174,20 \text{ g/mol}$
- CAS [74-79-3]
- EINECS-No.: 200-811-1
- Solub. in water: (20 °C): 148,7 g/l
- Melting point: 216 - 218 °C (decomposes)
- LD 50 (oral, rat): > 5110 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2925 29 00 90
- Applications: for pharmaceutical use, in food industry, in pharma industry.

assay (titr. with  $HClO_4$ , referred to dried sample) ..... 98,5 - 101,5 %

assay (acidimetric, referred to dried sample) ..... 98,5 - 101,0 %

identification ..... passes test

appearance of solution ..... passes test

specific rotation ( $[\alpha]_{25}^D$ ; c=8, HCl 6N) ..... + 26,3° - + 27,7°

specific rotation ( $[\alpha]_{20}^D$ , c = 8, HCl 250g/l on dried substance) ..... + 25,5° - + 28,5°

chlorides (Cl) ..... max. 200 ppm

sulfates ( $SO_4$ ) ..... max. 300 ppm

ammonium ( $NH_4$ ) ..... max. 0,02 %

iron (Fe) ..... max. 10 ppm

ninhydrin-positive substances ..... passes test

residue on ignition ..... max. 0,1 %

loss on drying (105 °C) ..... max. 0,5 %

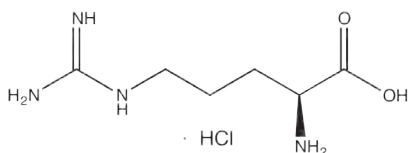
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.

Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AR01200100	100 g	
AR01200500	500 g	
AR0120005P	5 kg	
AR0120025P	25 kg	

## L-ARGININE MONOHYDROCHLORIDE

AR0125 L-Arginine monohydrochloride, extra pure, Pharmapur®, Ph Eur, BP, USP



- Synonyms:  $\alpha$ -Amino- $\delta$ -guanidino valeric acid hydrochloride
- $C_6H_{14}N_4O_2 \cdot HCl$
- $M = 210,86 \text{ g/mol}$
- CAS [1119-34-2]
- EINECS-No.: 214-275-1
- Solub. in water: (20 °C): 730 g/l
- Melting point: 218 - 220 °C (decomposes)
- LD 50 (oral, rat): 12000 mg/kg
- Tariff number: 2925 29 00 90
- Applications: synthesis of organic products, for pharmaceutical use, in biochemistry, in food industry, in pharma industry.

assay (titr. with  $HClO_4$ , referred to dried sample) ..... 98,5 - 101,0 %

chloride content ..... 16,5 - 17,1 %

identification ..... passes test

appearance of solution ..... passes test

specific rotation ( $[\alpha]_{20}^D$ , c = 8, HCl 250g/l on dried substance) ..... + 21,0° - + 23,5°

specific rotation ( $[\alpha]_{20}^D$ , c = 8, HCl 6N) ..... + 21,4° - + 23,6°

sulfates ( $SO_4$ ) ..... max. 300 ppm

ammonium ( $NH_4$ ) ..... max. 0,02 %

iron (Fe) ..... max. 10 ppm

ninhydrin-positive substances ..... max. 0,5 %

residue on ignition ..... max. 0,1 %

loss on drying (105 °C) ..... max. 0,2 %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.

Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AR01250050	50 g	
AR01250250	250 g	
AR0125005P	5 kg	

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

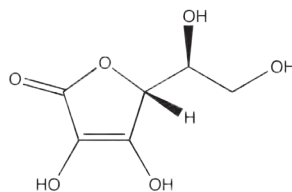
Y

Z



## L(+)-ASCORBIC ACID

AC0515 L(+)-Ascorbic acid, ExpertQ®, for analysis, ACS, ISO



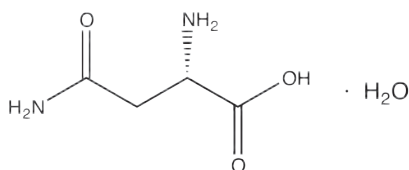
- Synonyms: Vitamin C, 3-Oxo-L-gulonic acid-γ-lactone
- $C_6H_8O_6$
- $M = 176,13 \text{ g/mol}$
- CAS [50-81-7]
- EINECS-No.: 200-066-2
- Solub. in water: (24 °C): 330 g/l
- Melting point: 190 - 192 °C (decomposes)
- Ignition temp.: 380 °C
- LD 50 (oral, rat): 11900 mg/kg
- Tariff number: 2936 27 00 00
- Applications: synthesis of organic products, for pharmaceutical use, antioxidant (in food industry), in biochemistry.

assay (iodometric) . . . . . min. 99,7 %  
 identity (IR-spectrum) . . . . . passes test  
 specific rotation ( $[\alpha]_{20}^D$ ,  $c = 10, \text{H}_2\text{O}$ ) + 20,5° - + 21,5°  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 2,2 - 2,5  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 0,3 ppm  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 2 ppm  
 lead (Pb) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 0,001 %  
 residue on ignition . . . . . max. 0,05 %  
 loss on drying (105 °C) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC05150100	100 g	⓪
AC05150250	250 g	⓪
AC05151000	1 kg	⓪
AC0515005P	5 kg	Ⓟ
AC0515025P	25 kg	Ⓟ

## L-ASPARAGINE MONOHYDRATE

AS0015 L-Asparagine monohydrate, extra pure, Phampur®, Ph Eur, BP



- Synonyms: Asparaginic acid semiamide
- $C_4H_8N_2O_3 \cdot \text{H}_2\text{O}$
- $M = 150,14 \text{ g/mol}$
- CAS [5794-13-8]
- EINECS-No.: 200-735-9
- Solub. in water: (20 °C): 22 g/l
- Melting point: 215 - 217 °C (decomposes)
- Tariff number: 2924 19 00 90
- Applications: in biochemistry, for pharmaceutical use, in food industry, synthesis of organic products, in pharma industry.

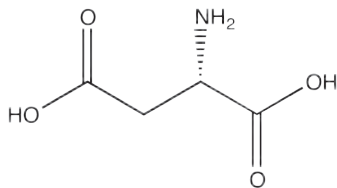
assay (titration with  $\text{HClO}_4$ , on dried sample) . . . . . 99,0 - 101,0%  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 specific rotation ( $[\alpha]_{20}^D$ ,  $c = 10, \text{HCl } 309 \text{ g/l}$  on dried sample) . . . . . + 33,7° - + 36,0°  
 pH (2%,  $\text{H}_2\text{O}$ ) . . . . . 4,0 - 6,0  
 chlorides (Cl) . . . . . max. 200 ppm  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 200 ppm  
 ammonium ( $\text{NH}_4$ ) . . . . . max. 0,1%  
 iron (Fe) . . . . . max. 10 ppm  
 related substances . . . . . passes test  
 residue on ignition . . . . . max. 0,1%  
 loss on drying (130 °C) . . . . . 10,5 - 12,5%  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AS00150025	25 g	⓪
AS00150100	100 g	⓪
AS00151000	1 kg	⓪
AS0015025P	25 kg	Ⓟ

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## L- ASPARTIC ACID

AC0529 L-Aspartic acid, extra pure, Pharmapur®, Ph Eur, BP, USP



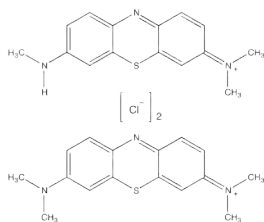
- Synonyms: L- $\alpha$ -Aminosuccinic acid
- $C_4H_7NO_4$
- $M = 133,10 \text{ g/mol}$
- CAS [56-84-8]
- EINECS-No.: 200-291-6
- Solub. in water: (20 °C): 4 g/l
- Melting point: 269 - 271 °C
- LD 50 (oral, rat): > 5110 mg/kg
- Tariff number: 2922 49 95 90
- Applications: for pharmaceutical use, synthesis of organic products, in food industry, in pharma industry.

assay (acidimetric, referred to dried sample) . . . . . 98,5 - 101,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 specific rotation ( $[\alpha]_{20}^{20}$ ,  $c = 8$ , HCl 6 mol/l, on dried sample) . . . . . + 24,0 ° - + 26,0 °  
 chlorides (Cl) . . . . . max. 200 ppm  
 sulfates ( $SO_4$ ) . . . . . max. 300 ppm  
 ammonium ( $NH_4$ ) . . . . . max. 0,02 %  
 iron (Fe) . . . . . max. 10 ppm  
 ninhydrin-positive substances . . . . . passes test  
 enantiomeric purity . . . . . passes test  
 other dicarboxylic acids . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (105°C, 3 h) . . . . . max. 0,3 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC05290100	100 g	Ⓜ
AC05290500	500 g	Ⓜ

## AZURE II, C.I. 52010/52015

AZ0365 Azure II, C.I. 52010/52015, for microscopy



- Synonyms: Mixture of Azure B and Methylene blue in equal amounts
- CAS [37247-10-2]
- Solub. in water: (20 °C): ~ 100 g/l
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 3204 13 00 90
- Applications: microscopy.

Absorption maximum  $\lambda$  max (in methanol) . . . . . 645 - 650 nm  
 Absorptivity (A1%/1 cm;  $\lambda$  max; 0,0005 % methanol, on dried sample) . . . . . 1850 - 2100  
 related substances (TLC) . . . . . passes test  
 loss on drying (110 °C) . . . . . max. 15 %  
 suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AZ03650010	10 g	Ⓜ

## AZUR EOSIN METHYLENE BLUE DYE, ACCORDING TO GIEMSA

AZ0390 Azur eosin methylene blue dye, according to Giemsa

- CAS [51811-82-6]
- EINECS-No.: 257-438-2
- Solub. in water: (20 °C): slightly soluble
- Tariff number: 3204 19 00 90
- Applications: microscopy.

Absorption maximum  $\lambda_1$  (in methanol) . . . . . 640 - 650 nm  
 Absorption maximum  $\lambda_2$  (in methanol) . . . . . 520 - 525 nm  
 Absorptivity (A1%/1 cm;  $\lambda_1$ , methanol, referred to dried sample) . . . . . min. 950  
 Absorptivity (A1%/1 cm;  $\lambda_2$ ; methanol, referred to dried sample) . . . . . min 600  
 loss on drying (110 °C) . . . . . max. 10 %  
 TLC test . . . . . passes test

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AZ03900100	100 g	Ⓜ
AZ03901000	1 kg	Ⓜ
AZ0390005P	5 kg	Ⓜ

## AZUR EOSIN METHYLENE BLUE SOLUTION (IN METHANOL), ACCORDING TO GIEMSA, MODIFIED

AZ0391 Azur eosin methylene blue solution (in methanol), according to Giemsa, modified, for microscopy

- Density: 0,99 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Boiling point: > 65 °C
- Flash pt. 18 °C
- Ignition temp.: ~ 455 °C
- LD 50 (oral, rat): 5628 mg/kg (methanol)
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992
- IATA/ICAO: 3 II UN 1992
- GHS-signal word: Danger

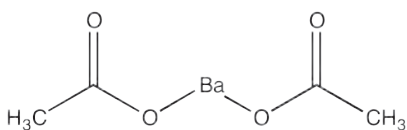
- GHS-H sentences: H225 - H301 - H311 - H330 - H370
- GHS-P sentences: P210 - P303 + P361 + P353 - P320 - P361 - P405 - P501a
- Tariff number: 3204 19 00 90
- Applications: microscopy.

Absorption maximum  $\lambda_1$  . . . . . 650 - 665 nm  
 Absorption maximum  $\lambda_2$  . . . . . 520 - 525 nm  
 Absorbance (0,1 %  $\lambda_1$ , 1cm) . . . . . 0,71 - 0,76  
 Absorbance (0,1 %  $\lambda_2$ , 1cm) . . . . . 0,33 - 0,36  
 suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AZ03910500	500 ml	Ⓜ
AZ03911000	1 l	Ⓜ
AZ03912500	2,5 l	Ⓜ

## BARIUM ACETATE

BA0040 Barium acetate, ExpertQ®, for analysis, ACS



- Synonyms: Acetic acid barium salt
- $Ba(CH_3COO)_2$
- M = 255,43 g/mol
- CAS [543-80-6]
- EINECS-No.: 208-849-0
- Solub. in water: (20 °C): ~ 720 g/l
- Melting point: ~ 450 °C
- LD 50 (oral, rat): 921 mg/kg
- EC-Index-No.: 056-002-00-7
- ADR: 6.1 T5 III UN 1564
- IMDG: 6.1 III UN 1564
- IATA/ICAO: 6.1 III UN 1564
- GHS-signal word: Warning
- GHS-H sentences: H302 - H332
- GHS-P sentences: P261 - P270 - P304 + P340 - P330 - P501a
- Tariff number: 2915 29 00 90
- Applications: analytical chemistry, synthesis of organic products, in lubricant compositions.
- Appearance: White solid

assay (complexometric) . . . . . 99 - 102 %  
insoluble in water . . . . . max. 0,01 %  
pH (5 %, H<sub>2</sub>O) . . . . . 7,0 - 8,5  
chlorides (Cl) . . . . . max. 0,0005 %  
calcium (Ca) . . . . . max. 0,005 %  
heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 5 ppm  
potassium (K) . . . . . max. 0,003 %  
sodium (Na) . . . . . max. 0,005 %  
strontium (Sr) . . . . . max. 0,15 %  
oxidizing substances (as NO<sub>2</sub>) . . . . . max. 0,005 %  
non precipitable with H<sub>2</sub>SO<sub>4</sub> (as SO<sub>4</sub>) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
BA00400500	500 g	Ⓟ
BA00401000	1 kg	Ⓟ
BA0040005P	5 kg	Ⓟ
BA0040025P	25 kg	Ⓟ

## BARIUM CHLORIDE DIHYDRATE

- BaCl<sub>2</sub>·2H<sub>2</sub>O
- M = 244,28 g/mol
- CAS [10326-27-9]
- EINECS-No.: 233-788-1
- Solub. in water: (20 °C): 357 g/l
- Melting point: 962 °C (release of crystalline water)

- LD 50 (oral, rat): 118 mg/kg (anhydrous substance)
- EC-Index-No.: 056-002-00-7
- ADR: 6.1 T5 III UN 1564
- IMDG: 6.1 III UN 1564
- IATA/ICAO: 6.1 III UN 1564
- GHS-signal word: Warning

- GHS-H sentences: H302 - H332
- GHS-P sentences: P261 - P264 - P270 - P304 + P340 - P330 - P501a
- Tariff number: 2827 39 85 40
- Applications: analytical chemistry, for determination of: sulfates.

BA0053 Barium chloride dihydrate, EssentQ®



assay (complexometric) . . . . . 99 - 102 %  
identity ( IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,02 %  
pH (5 %, H<sub>2</sub>O) . . . . . 5,2 - 8,0  
nitrogen compounds (as N) . . . . . max. 0,003 %  
calcium (Ca) . . . . . max. 0,2 %  
copper (Cu) . . . . . max. 0,002 %

heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,001 %  
lead (Pb) . . . . . max. 0,002 %  
nickel (Ni) . . . . . max. 0,002 %  
strontium (Sr) . . . . . max. 0,2 %  
non precipitable with diluted H<sub>2</sub>SO<sub>4</sub> . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
BA00530500	500 g	Ⓟ
BA00531000	1 kg	Ⓟ
BA0053005P	5 kg	Ⓟ
BA0053025P	25 kg	Ⓟ

BA0055 Barium chloride dihydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (complexometric) . . . . . min. 99,0 %  
identity ( IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,005 %  
pH (5 %, H<sub>2</sub>O) . . . . . 5,2 - 8,0  
total nitrogen (as N) . . . . . max. 0,002 %  
oxidizing substances (as NO<sub>2</sub>) . . . . . max. 0,005 %  
calcium (Ca) . . . . . max. 0,005 %

heavy metals . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 1 ppm  
lead (Pb) . . . . . max. 0,001 %  
potassium (K) . . . . . max. 0,0025 %  
sodium (Na) . . . . . max. 0,005 %  
strontium (Sr) . . . . . max. 0,05 %  
loss on drying (150 °C) . . . . . 14,0 - 16,0 %

ART. NO.	VOLUME	CONTAINER
BA00550500	500 g	Ⓟ
BA00551000	1 kg	Ⓟ
BA0055005P	5 kg	Ⓟ
BA0055025P	25 kg	Ⓟ

## BARIUM CHLORIDE, SOLUTION 10%

BA0056 Barium chloride, solution 10% w/v



- BaCl<sub>2</sub>
- M = 208,25 g/mol
- CAS [10361-37-2]
- EINECS-No.: 233-788-1
- Density: 1,08 g/cm<sup>3</sup>
- EC-Index-No.: 056-004-00-8
- ADR: 6.1 T4 III UN 3287
- IMDG: 6.1 III UN 3287
- IATA/ICAO: 6.1 III UN 3287
- GHS-signal word: Warning

- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2827 39 85 90
- Applications: analytical chemistry, laboratory reagent.
- Appearance: Colourless liquid

assay (argentometric) . . . . . approx. 10 %

ART. NO.	VOLUME	CONTAINER
BA00560500	500 ml	Ⓟ

## BARIUM HYDROXIDE OCTAHYDRATE

- Synonyms: Caustic baryta, Barium oxide hydrate octahydrate
- $\text{Ba}(\text{OH})_2 \cdot 8\text{H}_2\text{O}$
- $M = 315,48 \text{ g/mol}$
- CAS [12230-71-6]
- EINECS-No.: 241-234-5
- Solub. in water: (15 °C): 56 g/l

- Melting point: 78 °C
- LD 50 (oral, rat): 550 mg/kg
- ADR: 8 CT2 II UN 2923
- IMDG: 8 II UN 2923
- IATA/ICAO: 8 II UN 2923
- GHS-signal word: Warning
- GHS-H sentences: H302 - H332

- GHS-P sentences: P261 - P264 - P270 - P304 + P340 - P330 - P501a
- Tariff number: 2816 40 00 00
- Applications: analytical chemistry, for the detection of: carbon dioxide; in pesticide compositions, in lubricant compositions, in the rubber industry.

### BA0063 Barium hydroxide octahydrate, EssentQ®



assay (complexometric) . . . . . min. 97 %  
 insoluble in HCl . . . . . max. 0,01 %  
 carbonates (as  $\text{BaCO}_3$ ) . . . . . max. 2 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfides (S) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 10 ppm

iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,002 %  
 strontium (Sr) . . . . . max. 1 %  
 non precipitable with  $\text{H}_2\text{SO}_4$  (as  $\text{SO}_4$ ) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
BA00630500	500 g	
BA00631000	1 kg	
BA0063005P	5 kg	
BA0063025P	25 kg	

### BA0065 Barium hydroxide octahydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (acidimetric) . . . . . min. 98,0 %  
 insoluble in HCl . . . . . max. 0,005 %  
 carbonates (as  $\text{BaCO}_3$ ) . . . . . max. 2,0 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfides (S) . . . . . max. 0,0005 %  
 cadmium (Cd) . . . . . max. 5 ppm  
 calcium (Ca) . . . . . max. 0,002 %  
 heavy metals (as Pb) . . . . . max. 5 ppm

iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,002 %  
 potassium (K) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,01 %  
 strontium (Sr) . . . . . max. 0,5 %  
 zinc (Zn) . . . . . max. 5 ppm  
 non precipitable with  $\text{H}_2\text{SO}_4$  (as  $\text{SO}_4$ ) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
BA00650500	500 g	
BA00651000	1 kg	

## BARIUM NITRATE

- Synonyms: Nitric acid barium salt
- $\text{Ba}(\text{NO}_3)_2$
- $M = 261,35 \text{ g/mol}$
- CAS [10022-31-8]
- EINECS-No.: 233-020-5
- Solub. in water: (20 °C): 90 g/l
- Melting point: 592 - 595 °C

- LD 50 (oral, rat): 355 mg/kg
- EC-Index-No.: 056-002-00-7
- ADR: 5.1 OT2 II UN 1446
- IMDG: 5.1 II UN 1446
- IATA/ICAO: 5.1 II UN 1446
- GHS-signal word: Warning
- GHS-H sentences: H302 + H332 -

- GHS-P sentences: P210 - P220 - P221 - P261 - P305 + P351 + P338 - P370 + P378 - P501a
- Tariff number: 2834 29 20 00
- Applications: analytical chemistry, in explosive compositions.
- Appearance: White crystals

### BA0073 Barium nitrate, EssentQ®



assay (complexometric) . . . . . min. 99 %  
 insoluble in water . . . . . max. 0,02 %  
 acidity (as  $\text{HNO}_3$ ) . . . . . max. 0,01 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 5,0 - 8,0

calcium (Ca) . . . . . max. 0,1 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 5 ppm  
 strontium (Sr) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
BA00730500	500 g	

### BA0075 Barium nitrate, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (complexometric) . . . . . min. 99,0 %  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 5,0 - 8,0  
 chlorides (Cl) . . . . . max. 5 ppm  
 calcium (Ca) . . . . . max. 0,002 %  
 heavy metals . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 2 ppm  
 potassium (K) . . . . . max. 0,005 %

sodium (Na) . . . . . max. 0,005 %  
 strontium (Sr) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
BA00750250	250 g	
BA00750500	500 g	
BA00751000	1 kg	
BA0075005P	5 kg	
BA0075025P	25 kg	

**BARIUM SULFATE**

BA0080 Barium sulfate, extra pure, Pharmpur®, Ph Eur, BP

- Synonyms: Sulfuric acid barium salt, Blanc fixe
- BaSO<sub>4</sub>
- M = 233,40 g/mol
- CAS [7727-43-7]
- EINECS-No.: 231-784-4
- Solub. in water: (20 °C): 15000 mg/kg
- Tariff number: 2833 27 00 00
- Applications: photography, in the rubber industry, synthesis of polymers, in radiology applications, in pharma industry, cosmetic auxiliary
- Appearance: white

identification . . . . . passes test  
soluble in acid . . . . . max. 0,3 %  
acidity or alkalinity . . . . . passes test  
oxidisable sulphur compounds . . . . . passes test  
barium soluble salts. . . . . max. 10 ppm  
residue on ignition . . . . . max. 2,0 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
BA00800500	500 g	Ⓟ
BA00801000	1 kg	Ⓟ
BA0080005P	5 kg	Ⓟ
BA0080025P	25 kg	Ⓟ

**BARRITT'S REAGENT**

RE0100 Barritt's reagent, for microbiology

- Density: 0,82 g/cm<sup>3</sup>
- Flash pt. 14 °C
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225 - H318

- GHS-P sentences: P210 - P241 - P280 - P303 + P361 + P353 - P305 + P351 + P338 - P501a
- Tariff number: 3822 00 00 00
- Applications: laboratory reagent, antibiotic.

suitability for microbiology. . . . . passes test

ART. NO.	VOLUME	CONTAINER
RE0100G100	100 ml	Ⓟ

**BENEDICT'S REAGENT, QUALITATIVE**

RE0001 Benedict's reagent, for qualitative determination of sugar

- CAS [63126-89-6]
- Density: 1,19 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- GHS-signal word: Warning
- GHS-H sentences: H319 - H412
- GHS-P sentences: P280 - P273 - P264 - P305 + P351 + P338 - P337 + P313 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent, for determination of: sugars.

Suitable for qualitative determination of sugar

ART. NO.	VOLUME	CONTAINER
RE00010500	500 ml	Ⓟ
RE00011000	1 l	Ⓟ

**BENEDICT'S REAGENT, QUANTITATIVE**

RE0002 Benedict's reagent, for quantitative determination of sugar

- CAS [63126-89-6]
- Density: 1,23 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- GHS-H sentences: H412 - EUH032
- GHS-P sentences: P273 - P501a
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, laboratory reagent, for determination of: sugars.

Suitable for quantitative determination of sugar

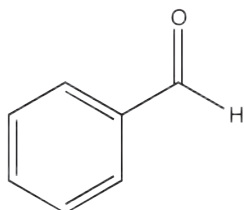
ART. NO.	VOLUME	CONTAINER
RE00020500	500 ml	Ⓟ
RE00021000	1 l	Ⓟ

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z



## BENZALDEHYDE

BE0160 Benzaldehyde, EssentQ®



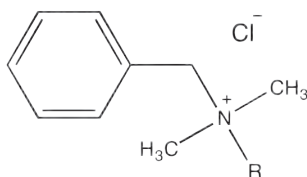
- Synonyms: Benzoic aldehyde, Bitter almond oil
- C<sub>7</sub>H<sub>6</sub>O
- M = 106,13 g/mol
- CAS [100-52-7]
- EINECS-No.: 202-860-4
- Density: 1,05 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 3,3 g/l
- Melting point: -56 °C
- Boiling point: 179 °C
- Flash pt. 64 °C
- Ignition temp.: 190 °C
- Vapour pressure: (20 °C) 1,3 hPa
- Refraction index: (n 20 °C/D) 1,5450
- LD 50 (oral, rat): 1300 mg/kg
- EC-Index-No.: 605-012-00-5
- ADR: 9 M11 III UN 1990
- IMDG: 9 III UN 1990
- IATA/ICAO: 9 III UN 1990
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2912 21 00 00
- Applications: solvents, perfumery, synthesis of organic products, manufacture of dyes.

assay (G.C.) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,044 - 1,046  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
BE01601000	1 l	0
BE01602500	2,5 l	0
BE0160005P	5 l	P
BE0160025P	25 l	P

## BENZALKONIUM CHLORIDE

BE0155 Benzalkonium chloride, EssentQ®

R: C<sub>12</sub>H<sub>25</sub> 60%C<sub>14</sub>H<sub>29</sub> 40%

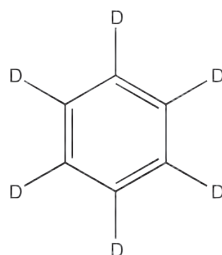
- Synonyms: Alkylbenzyltrimethylammonium chloride, Benzyltrimethylalkylammonium chloride
- C<sub>19</sub>H<sub>27</sub>ClN
- M = 284 g/mol
- CAS [63449-41-2]
- EINECS-No.: 264-151-6
- Solub. in water: (20 °C): soluble
- Melting point: 29 - 34 °C
- EC-Index-No.: 612-140-00-5
- ADR: 8 C4 II UN 3261
- IMDG: 8 II UN 3261
- IATA/ICAO: 8 II UN 3261
- GHS-signal word: Danger
- GHS-H sentences: H314 - H400 - H302 - H312
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3402 12 00 00
- Applications: analytical chemistry, disinfectant.

assay (argentometric, on dried sample) . . . . . min. 97 %  
 identity (IR-spectrum) . . . . . passes test  
 water . . . . . 1 - 6 %

ART. NO.	VOLUME	CONTAINER
BE01550250	250 g	0
BE01551000	1 kg	0

## BENZENE-D6

BE0040 Benzene-d6, deuteration degree min. 99,5%, NMR spectroscopy grade, Spectrosol®

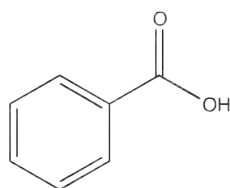


- Synonyms: Hexadeuterobenzene
- C<sub>6</sub>D<sub>6</sub>
- M = 84,15 g/mol
- CAS [1076-43-3]
- EINECS-No.: 214-061-8
- Density: 0,95 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: 6,7 °C
- Boiling point: 79 °C
- Flash pt. -11 °C
- Ignition temp.: 555 °C
- LD 50 (oral, rat): 930 mg/kg
- ADR: 3 F1 II UN 1114
- IMDG: 3 II UN 1114
- IATA/ICAO: 3 II UN 1114
- GHS-signal word: Danger
- GHS-H sentences: H225 - H340 - H350 - H372 - H304 - H315 - H319
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2845 90 10 00
- Applications: for nuclear magnetic resonance spectroscopy.

deuteration degree . . . . . min. 99,5 %  
 water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) . . . . . max. 0,02 %  
 performance test (NMR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
BE00400010	10 ml	0

## BENZOIC ACID



- Synonyms: Benzenecarboxylic acid, Phenylformic acid
- C<sub>7</sub>H<sub>6</sub>O<sub>2</sub>
- M = 122,12 g/mol
- CAS [65-85-0]
- EINECS-No.: 200-618-2
- Solub. in water: (20 °C): 3,4 g/l
- Melting point: 121,5 - 123,0 °C
- Boiling point: ~ 249 °C
- Flash pt. 121 °C

- Ignition temp.: 532 °C
- Vapour pressure: (20 °C) 1,3 hPa
- LD 50 (oral, rat): 1700 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H315 - H318 - H372
- GHS-P sentences: P260 - P264 - P270 - P305 + P351 + P338 - P310 - P321 - P362 + P364 - P501a
- Tariff number: 2916 31 00 90
- Applications: analytical chemistry, preservative agent, manufacture of dyes.

### AC0563 Benzoic acid, EssentQ®



assay (acidimetric) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,02 %  
water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC05630500	500 g	Ⓜ
AC05631000	1 kg	Ⓜ

ART. NO.	VOLUME	CONTAINER
AC0563005P	5 kg	Ⓜ
AC0563025P	25 kg	Ⓜ

### AC0565 Benzoic acid, ExpertQ®, for analysis, ACS



assay (acidimetric) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
melting point . . . . . 122 - 123 °C  
appearance of solution . . . . . passes test  
insoluble in CH<sub>3</sub>OH . . . . . max. 0,005 %  
halogen compounds (as Cl) . . . . . max. 0,01 %  
chlorine compounds (as Cl) . . . . . max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %

copper (Cu) . . . . . max. 5 ppm  
heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 2 ppm  
lead (Pb) . . . . . max. 2 ppm  
zinc (Zn) . . . . . max. 5 ppm  
sulfur compounds (as S) . . . . . max. 0,002 %  
substances reducing KMnO<sub>4</sub> . . . . . passes test  
residue on ignition . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AC05650500	500 g	Ⓜ
AC05651000	1 kg	Ⓜ
AC0565005P	5 kg	Ⓜ
AC0565025P	25 kg	Ⓜ

### AC0566 Benzoic acid, secondary standard for volumetric titrations, Titrasure®



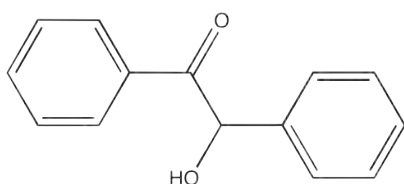
assay (on dried sample) . . . . . min. 99,5 %  
melting point . . . . . 122 - 123 °C  
insoluble in CH<sub>3</sub>OH . . . . . max. 0,005 %  
chlorine compounds (as Cl) . . . . . max. 0,005 %

sulfur compounds (as S) . . . . . max. 0,002 %  
heavy metals (as Pb) . . . . . max. 5 ppm  
substances reducing KMnO<sub>4</sub> . . . . . passes test  
residue on ignition . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AC05660080	80 g	Ⓜ

## BENZOIN

### BE0270 Benzoin, EssentQ®



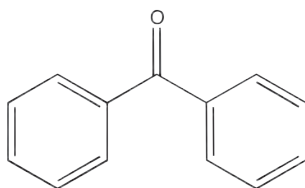
- Synonyms: α-Hydroxy-α-phenylacetophenone
- C<sub>14</sub>H<sub>12</sub>O<sub>2</sub>
- M = 212,25 g/mol
- CAS [119-53-9]
- EINECS-No.: 204-331-3
- Solub. in water: (20 °C): insoluble
- Melting point: 132 - 134 °C
- Boiling point: 344 °C
- Flash pt. 182 °C
- Ignition temp.: 182 °C
- Vapour pressure: (136 °C) 1,3 hPa
- LD 50 (oral, rat): 6400 mg/kg
- Tariff number: 2914 40 90 00
- Applications: synthesis of organic products, laboratory reagent.

assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,05 %  
water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
BE02700250	250 g	Ⓜ
BE02701000	1 kg	Ⓜ

## BENZOPHENONE

BE0245 Benzophenone, EssentQ®



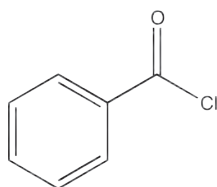
- Synonyms: Diphenyl ketone
- $C_{13}H_{10}O$
- $M = 182,22$  g/mol
- CAS [119-61-9]
- EINECS-No.: 204-337-6
- Solub. in water: (20 °C): insoluble
- Melting point: 47 - 49 °C
- Boiling point: 304 - 306 °C
- Flash pt. 150 °C
- Vapour pressure: (108 °C) 1,3 hPa
- LD 50 (oral, rat): > 10000 mg/kg
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning
- GHS-H sentences: H400 - H410
- GHS-P sentences: P273 - P391 - P501a
- Tariff number: 2914 39 00 90
- Applications: analytical chemistry, for pharmaceutical use.

assay (G.C.) .....min. 99 %  
 identity (IR-spectrum) .....passes test  
 residue on ignition .....max. 0,03 %

ART. NO.	VOLUME	CONTAINER
BE02450250	250 g	
BE02451000	1 kg	

## BENZOYL CHLORIDE

CL0270 Benzoyl chloride, EssentQ®

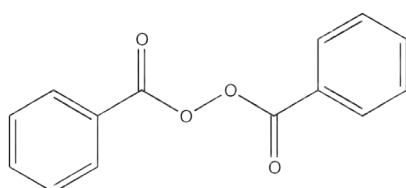


- Synonyms: Benzenecarbonyl chloride, Benzoic acid chloride
- $C_7H_5ClO$
- $M = 140,57$  g/mol
- CAS [98-88-4]
- EINECS-No.: 202-710-8
- Density: 1,21 g/cm<sup>3</sup>
- Solub. in water: (20 °C): hydrolysis reaction
- Melting point: -0,6 °C
- Boiling point: (4 hPa) 49 °C
- Flash pt. 72 °C
- Ignition temp.: 600 °C
- Vapour pressure: (20 °C) 0,5 hPa
- LD 50 (oral, rat): 2460 mg/kg
- EC-Index-No.: 607-012-00-0
- ADR: 8 C3 II UN 1736
- IMDG: 8 II UN 1736
- IATA/ICAO: 8 II UN 1736
- GHS-signal word: Danger
- GHS-H sentences: H314 - H302 - H312 - H332 - H317
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2916 32 90 00
- Applications: analytical chemistry, synthesis of organic products.

assay (G.C.) .....min. 99 %  
 identity (IR-spectrum) .....passes test  
 density (20°/4°) .....1,210 - 1,214  
 residue on ignition .....max. 0,01 %

ART. NO.	VOLUME	CONTAINER
CL02701000	1 l	
CL0270025A	25 l	

## BENZOYL PEROXIDE



- Synonyms: Dibenzoyl peroxide
- $C_{14}H_{10}O_4$
- $M = 242,23$  g/mol
- CAS [94-36-0]
- EINECS-No.: 202-327-6
- Solub. in water: (20 °C): almost insoluble
- Melting point: 100 - 105 °C (decomposes)
- LD 50 (oral, rat): > 5000 mg/kg
- EC-Index-No.: 617-008-00-0
- ADR: 5.2 P1 UN 3104

- IMDG: 5.2 UN 3104
- IATA/ICAO: 5.2 UN 3104
- GHS-signal word: Danger
- GHS-H sentences: H242 - H319 - H317 - H400
- GHS-P sentences: P210 - P305 + P351 + P338 - P321 - P410 - P411a + P235 - P501a
- Tariff number: 2916 32 00 00
- Applications: oxidizing agent, catalyst, synthesis of polymers, in pharma industry.
- Appearance: White powder

PE0165 Benzoyl peroxide, moistened with 25% H<sub>2</sub>O, EssentQ®

assay (iodometric, referred to dried sample) .....min. 98 %  
 identity (IR-spectrum) .....passes test  
 water .....approx. 25 %

ART. NO.	VOLUME	CONTAINER
PE01650100	100 g	

ART. NO.	VOLUME	CONTAINER
PE01651000	1 kg	

PE0160 Benzoyl peroxide, moistened with 25% H<sub>2</sub>O, extra pure, Pharpur®, Ph Eur, BP



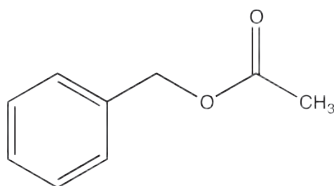
assay (iodometric) . . . . . 70,0 - 77,0 %  
assay (iodometric, referred to dried sample) . . . . . 90,0 - 110,0 %  
identification . . . . . passes test  
acidity . . . . . passes test  
chlorides (Cl) . . . . . max. 0,4 %  
related substances . . . . . passes test

organic impurities . . . . . passes test  
water . . . . . min. 20,0 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PE01600100	100 g	⊞
PE01600250	250 g	⊞

## BENZYL ACETATE

AC0080 Benzyl acetate, EssentQ®

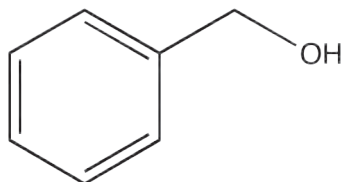


- Synonyms: Acetic acid benzyl ester
- C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>
- M = 150,18 g/mol
- CAS [140-11-4]
- EINECS-No.: 205-399-7
- Density: 1,06 g/cm<sup>3</sup>
- Solub. in water: (20 °C): slightly miscible
- Melting point: -51 °C
- Boiling point: 205 - 207 °C
- Flash pt. 95 °C
- Ignition temp.: 460 °C
- Vapour pressure: (25 °C) 1,9 hPa
- Refraction index: (n 20 °C/D) 1,5006
- LD 50 (oral, rat): 2490 mg/kg
- Tariff number: 2915 39 50 00
- Applications: synthesis of organic products, analytical chemistry, perfumery.

assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,055 - 1,056  
residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AC00801000	1 l	⊞

## BENZYL ALCOHOL



- Synonyms: Phenylmethanol, Phenylcarbinol
- C<sub>7</sub>H<sub>8</sub>O
- M = 108,14 g/mol
- CAS [100-51-6]
- EINECS-No.: 202-859-9
- Density: 1,045 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 40 g/l
- Melting point: -15,4 °C
- Boiling point: 205,3 °C
- Flash pt. 101 °C
- Ignition temp.: 436 °C
- Vapour pressure: (20 °C) 0,07 hPa

- Refraction index: (n 20 °C/D) 1,5396
- Dielectric const.: (25 °C) 13,1
- LD 50 (oral, rat): 1230 mg/kg
- EC-Index-No.: 603-057-00-5
- GHS-signal word: Warning
- GHS-H sentences: H302 - H332 - H319
- GHS-P sentences: P261 - P264 - P270 - P271 - P280 - P304 + P340 - P312 - P301 - P330 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 2906 21 00 00
- Applications: analytical chemistry, perfumery, microscopy.

AL0160 Benzyl alcohol, EssentQ®



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,045 - 1,047  
residue on evaporation . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AL01601000	1 l	⊞
AL01602500	2,5 l	⊞

ART. NO.	VOLUME	CONTAINER
AL0160005P	5 l	⊞
AL0160025P	25 l	⊞

AL0162 Benzyl alcohol, extra pure, Pharpur®, Ph Eur, BP, NF



assay (G.C.) . . . . . 98,0 - 100,5 %  
identification . . . . . passes test  
appearance of solution . . . . . clear and colourless  
refractive index n<sub>20</sub>/D . . . . . 1,538 - 1,541  
acidity . . . . . passes test  
peroxide index . . . . . max. 5  
related substances . . . . . passes test  
residue on evaporation . . . . . max. 0,05 %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AL01621000	1 l	⊞
AL01622500	2,5 l	⊞
AL0162005P	5 l	⊞
AL0162025A	25 l	⊞
AL0162200L	200 l	⊞

## AL0161 Benzyl alcohol, ExpertQ®, for analysis, Reag. Ph Eur



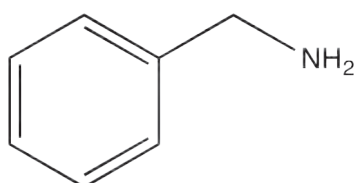
assay (G.C.) . . . . . 99,5 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 colour (Hazen) . . . . . max. 10  
 refractive index n<sub>20</sub>/D . . . . . 1,538 - 1,541  
 acidity . . . . . max. 0,001 meq/g  
 alkalinity . . . . . max. 0,002 meq/g  
 halogen compounds (as Cl) . . . . . max. 0,001 %  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 heavy metals (as Pb) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 peroxide index . . . . . max. 5  
 related substances . . . . . passes test  
 residue on evaporation . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AL01611000	1 l	0
AL01612500	2,5l	0
AL0161025P	25 l	0
AL0161200L	200 l	0

## BENZYLAMINE

## BE0075 Benzylamine, EssentQ®



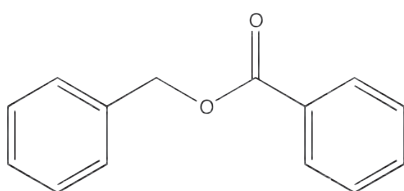
- Synonyms: Phenylmethylamine
- C<sub>7</sub>H<sub>9</sub>N
- M = 107,16 g/mol
- CAS [100-46-9]
- EINECS-No.: 202-854-1
- Density: 0,98 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 10 °C
- Boiling point: 185 °C
- Flash pt. 65 °C
- Ignition temp.: ~ 390 °C
- Vapour pressure: (20 °C) 0,6 hPa
- Refraction index: (n 20 °C/D) 1,5438
- LD 50 (oral, rat): ~ 1130 mg/kg
- EC-Index-No.: 612-047-00-X
- ADR: 8 C7 III UN 2735
- IMDG: 8 III UN 2735
- IATA/ICAO: 8 III UN 2735
- GHS-signal word: Danger
- GHS-H sentences: H314 - H302 - H312
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2921 49 00 90
- Applications: synthesis of organic products, analytical chemistry, perfumery.

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,982 - 0,983  
 residue on ignition . . . . . max. 0,01 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
BE00750250	250 ml	0
BE00751000	1 l	0

## BENZYL BENZOATE

## BE0185 Benzyl benzoate, extra pure, Pharmpur®, Ph Eur, BP, USP



- Synonyms: Benzoic acid benzyl ester
- C<sub>14</sub>H<sub>12</sub>O<sub>2</sub>
- M = 212,25 g/mol
- CAS [120-51-4]
- EINECS-No.: 204-402-9
- Density: 1,12 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: 21 °C
- Boiling point: 324 °C
- Flash pt. 158 °C
- Ignition temp.: 480 °C
- Vapour pressure: (20 °C) < 0,1 hPa
- Refraction index: (n 21 °C/D) 1,5681
- LD 50 (oral, rat): 1900 mg/kg
- EC-Index-No.: 607-085-00-9
- ADR: 9 M6 III UN 3082
- IMDG: 9 III UN 3082
- IATA/ICAO: 9 III UN 3082
- GHS-signal word: Warning
- GHS-H sentences: H302 - H411
- GHS-P sentences: P273 - P264 - P270 - P330 - P391 - P501a
- Tariff number: 2916 31 00 00
- Applications: analytical chemistry, in food industry, perfumery, in pharma industry.
- Appearance: Oily liquid

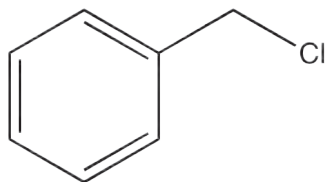
assay (acidimetric, after saponification) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 density (20°/20°) . . . . . 1,118 - 1,120  
 refractive index n<sub>20</sub>/D . . . . . 1,568 - 1,570  
 freezing point . . . . . min. 18,0 °C  
 acidity . . . . . passes test  
 aldehydes (as C<sub>6</sub>H<sub>6</sub>O) . . . . . max. 0,05 %  
 residue on ignition . . . . . max. 0,1 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
BE01851000	1 l	0
BE0185025P	25 l	0



## BENZYL CHLORIDE

CL0250 Benzyl chloride, EssentQ®



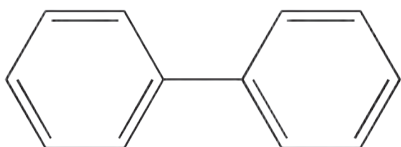
- Synonyms:  $\alpha$ -Chlorotoluene, Chloromethylbenzene
- $C_7H_7Cl$
- $M = 126,59 \text{ g/mol}$
- CAS [100-44-7]
- EINECS-No.: 202-853-6
- Density:  $1,10 \text{ g/cm}^3$
- Solub. in water: (30 °C): 460 mg/l
- Melting point:  $-41,2 \text{ °C}$
- Boiling point: (79 hPa)  $100 \text{ °C}$
- Flash pt.  $60 \text{ °C}$
- Ignition temp.:  $585 \text{ °C}$
- Vapour pressure: (20 °C) 1,2 hPa
- Refraction index: (n 20 °C/D) 1,5380
- LD 50 (oral, rat): 440 mg/kg
- EC-Index-No.: 602-037-00-3
- ADR: 6.1 TC1 II UN 1738
- IMDG: 6.1 II UN 1738
- IATA/ICAO: 6.1 II UN 1738
- GHS-signal word: Danger
- GHS-H sentences: H331 - H350 - H373 - H318 - H226 - H302 - H315 - H335
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2903 99 90 90
- Applications: perfumery, for pharmaceutical use, manufacture of dyes, manufacturing of synthetic resins.

assay (G.C.) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
density (20°/4°) ..... 1,099 - 1,100  
residue on ignition (as  $SO_2$ ) ..... max. 0,005 %

ART. NO.	VOLUME	CONTAINER
CL02501000	1 l	0

## BIPHENYL

BI0033 Biphenyl, EssentQ®



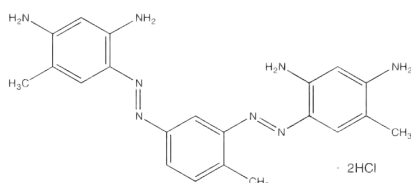
- Synonyms: Diphenyl, Phenylbenzene
- $C_{12}H_{10}$
- $M = 154,21 \text{ g/mol}$
- CAS [92-52-4]
- EINECS-No.: 202-163-5
- Solub. in water: (20 °C): insoluble
- Melting point:  $68 - 70 \text{ °C}$
- Boiling point:  $255 \text{ °C}$
- Flash pt.  $113 \text{ °C}$
- Ignition temp.:  $570 \text{ °C}$
- Vapour pressure: (20 °C) 0,07 hPa
- LD 50 (oral, rat): 2140 mg/kg
- EC-Index-No.: 601-042-00-8
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning
- GHS-H sentences: H400 - H410 - H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2902 90 30 00
- Applications: synthesis of organic products, analytical chemistry.

assay (G.C.) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
residue on ignition ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
BI00330500	500 g	0

## BISMARCK BROWN R, C.I. 21010

PA0150 Bismarck brown R, C.I. 21010, for microscopy




- Synonyms: Basic brown 4, Vesuvin, 4,4'-(1,3-Phenylenebis(azo))bis(1,3-benzenediamine)
- $C_{21}H_{24}N_6 \cdot 2HCl$
- $M = 461,40 \text{ g/mol}$
- CAS [5421-66-9]
- EINECS-No.: 226-541-4
- Melting point:  $222 \text{ °C}$
- Tariff number: 2927 00 00 90
- Applications: dye (for biology, cosmetics).

Absorption maximum  $\lambda$  (in  $H_2O$ ) ..... 463 - 467 nm  
Absorptivity ( $A_{1\%}^1 \text{ cm}$ ;  $\lambda$ , max) ..... min. 250  
related substances (TLC) ..... passes test  
loss on drying (110 °C) ..... max. 10 %

ART. NO.	VOLUME	CONTAINER
PA01500050	50 g	0

## BISMUTH(III) HYDROXIDE NITRATE

BI0225 Bismuth(III) hydroxide nitrate, extra pure, Phampur®, Ph Eur, BP, USP 

- Synonyms: Bismuth subnitrate, Bismuth nitrate basic
  - $\text{Bi}_5\text{O}(\text{OH})_3(\text{NO}_3)_4$
  - $M = 1461,99 \text{ g/mol}$
  - CAS [1304-85-4]
  - EINECS-No.: 215-136-8
  - Solub. in water: (20 °C): almost insoluble
  - Melting point: 260 °C
  - ADR: 5.1 O2 II UN 1477
  - IMDG: 5.1 II UN 1477
  - IATA/ICAO: 5.1 II UN 1477
  - GHS-signal word: Danger
  - GHS-H sentences: H272
  - GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a
  - Tariff number: 2834 29 80 00
  - Applications: analytical chemistry, cosmetics, in pharma industry.
  - Appearance: Colourless solid
- assay (complexometric, as Bi, on dried sample) . . . . . 71,0 - 74,0 %  
 assay (complexometric, as  $\text{Bi}_2\text{O}_3$ , on dried sample) . . . . . min. 79,0 %  
 identification . . . . . passes test  
 acidity . . . . . passes test  
 chlorides (Cl) . . . . . max. 200 ppm  
 carbonates . . . . . passes test  
 sulfates ( $\text{SO}_4$ ) . . . . . passes test  
 arsenic (As) . . . . . max. 8 ppm  
 ammonium salts . . . . . passes test  
 copper (Cu) . . . . . max. 50 ppm  
 copper (Cu) . . . . . passes test  
 lead (Pb) . . . . . max. 20 ppm  
 lead (Pb) . . . . . passes test  
 silver (Ag) . . . . . max. 25 ppm  
 silver (Ag) . . . . . passes test  
 alkali and alkaline earth metals . . . . . max. 0,5 %  
 substances not precipitated by ammonia . . . . . max. 1,0 %  
 loss on drying (105 °C) . . . . . max. 3,0 %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
BI02250250	250 g	0

## BISMUTH OXIDE

BI0200 Bismuth oxide, EssentQ®

- $\text{Bi}_2\text{O}_3$
- $M = 465,96 \text{ g/mol}$
- CAS [1304-76-3]
- EINECS-No.: 215-134-7
- Solub. in water: (20 °C): almost insoluble
- Melting point: 817 °C
- Boiling point: 1890 °C
- LD 50 (oral, rat): 5000 mg/kg
- Tariff number: 2825 90 80 00
- Applications: analytical chemistry, catalyst, in the rubber industry, synthesis of organic products.

assay (complexometric) . . . . . min. 99,5 %  
 nitrates ( $\text{NO}_3$ ) . . . . . max. 0,05 %  
 arsenic (As) . . . . . max. 5 ppm  
 copper (Cu) . . . . . max. 0,005 %  
 residue on ignition (1000 °C) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
BI02000100	100 g	0

## BIURET'S REAGENT


RE0003 Biuret's reagent, for determination of proteins

- Density: 1,06 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- GHS-H sentences: H412
- GHS-P sentences: P273 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for determination of proteins.
- Appearance: Blue liquid

Suitable for determination of proteins

ART. NO.	VOLUME	CONTAINER
RE00030100	100 ml	0

## BLEACHING AGENT, SOLUTION ACCORDING TO GRAM

DE0010 Bleaching agent, solution according to Gram 

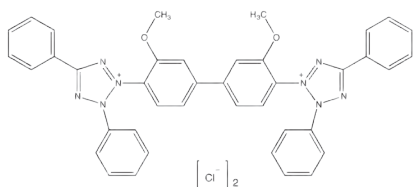
- CAS [37348-17-7]
- Density: 0,79 g/cm<sup>3</sup>
- Solub. in water: (20 °C): soluble
- Flash pt. -10 °C
- Ignition temp.: > 425 °C
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225 - H319 - H336
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: microscopy.

Suitability for microscopy . . . . . passes test  
 contains acetone and ethanol

ART. NO.	VOLUME	CONTAINER
DE0010G100	100 ml	0
DE00100500	500 ml	0
DE00101000	1 l	0
DE00102500	2,5 l	0

## BLUE TETRAZOLIUM

AZ0220 Blue tetrazolium, for microscopy



- Synonyms: 3,3'-(3,3'-Dimethoxy[1,1'-bi-phenyl]-4,4'-diyl)bis[2,5-diphenyl-2H-tetrazolium] dichloride
- $C_{40}H_{32}Cl_2N_8O_2$
- $M = 727,66 \text{ g/mol}$
- CAS [1871-22-3]
- EINECS-No.: 217-488-8
- Solub. in water: (20 °C): ~ 3 g/l
- Melting point: 245 - 247 °C
- EC-Index-No.: 611-024-00-1
- GHS-signal word: Danger
- GHS-H sentences: H350
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2933 99 90 90
- Applications: microscopy (dye), for histology.

Absorption maximum  $\lambda$  (in methanol) . . . 250 - 255 nm  
Absorptivity (A1%/1 cm;  $\lambda$ , 0,001%; methanol, referred to dried sample) . . . . . 700  
suitability for microscopy . . . . . passes test  
loss on drying (110 °C) . . . . . max. 3 %

ART. NO.	VOLUME	CONTAINER
AZ02200001	1 g	
AZ02200005	5 g	

## BORIC ACID

- Synonyms: Orthoboric acid
- $H_3BO_3$
- $M = 61,84 \text{ g/mol}$
- CAS [10043-35-3]
- EINECS-No.: 233-139-2
- Solub. in water: (20 °C): 46,5 g/l

- Melting point: 185 °C (decomposes)
- Vapour pressure: (20 °C) 2,7 hPa
- LD 50 (oral, rat): 2660 mg/kg
- EC-Index-No.: 005-007-00-2
- GHS-signal word: Danger
- GHS-H sentences: H360FD

- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2810 00 90 00
- Applications: in building materials, in porcelain industry, cosmetics, manufacture of dyes, photography, analytical chemistry.

AC0577 Boric acid, extra pure, Phampur®, Ph Eur, BP, NF



assay (acidimetric) . . . . . 99,0 - 100,5 %  
assay (acidimetric, referred to dried sample) . . . . . 99,5 - 100,5 %  
identification . . . . . passes test  
appearance of solution . . . . . clear and colourless  
completeness of solution . . . . . passes test  
pH (3,3 %,  $H_2O$ ) . . . . . 3,8 - 4,8  
solubility in ethanol 96 % . . . . . passes test

solubility in alcohol . . . . . passes test  
sulfates ( $SO_4$ ) . . . . . max. 450 ppm  
organic matter . . . . . passes test  
loss on drying (over silica gel) . . . . . max. 0,5 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC05770500	500 g	
AC05771000	1 kg	
AC0577005P	5 kg	
AC0577025P	25 kg	

AC0578 Boric acid, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (acidimetric) . . . . . 99,5 - 100,5 %  
identity (IR-spectrum) . . . . . passes test  
appearance of solution . . . . . clear and colourless  
insoluble in  $CH_3OH$  . . . . . max. 0,005 %  
solubility in ethanol 96 % . . . . . passes test  
pH (3,3 %,  $H_2O$ ) . . . . . 3,8 - 4,8  
chlorides (Cl) . . . . . max. 0,001 %  
phosphates (as  $PO_4$ ) . . . . . max. 0,001 %

sulfates ( $SO_4$ ) . . . . . max. 0,002 %  
calcium (Ca) . . . . . max. 0,005 %  
heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 5 ppm  
lead (Pb) . . . . . max. 0,001 %  
organic matter . . . . . passes test  
nonvolatile with methanol max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AC05780500	500 g	
AC05781000	1 kg	
AC0578005P	5 kg	
AC0578025P	25 kg	

AC0580 Boric acid, molecular biology grade



assay (acidimetric) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
absorbance of an aqueous solution  
0,05 M in a 1 cm cell at 260 nm . . . . . max. 0,01 AU

absorbance of an aqueous solution  
0,05 M in a 1 cm cell at 280 nm . . . . . max. 0,01 AU  
heavy metals (as Pb) . . . . . max. 0,001 %  
DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
AC05800500	500 g	
AC05801000	1 kg	
AC0580005P	5 kg	

## BORIC ACID, SOLUTION 4%

AC0579 Boric acid, solution 4% w/w

- Synonyms: Orthoboric acid solution
- $H_3BO_3$
- $M = 61,83 \text{ g/mol}$
- CAS [10043-35-3]
- EINECS-No.: 233-139-2
- Density: 1,015 g/cm<sup>3</sup>
- Tariff number: 2810 00 90 00
- Applications: analytical chemistry, in the pharmaceuticals industry, in pesticide compositions, titrant in volumetric analysis.

assay (acidimetric) . . . . . approx. 4 %  
chlorides (Cl) . . . . . max. 0,0003 %  
phosphates (as  $PO_4$ ) . . . . . max. 0,0005 %  
sulfates ( $SO_4$ ) . . . . . max. 0,0005 %  
arsenic (As) . . . . . max. 0,5 ppm  
heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 1 ppm

ART. NO.	VOLUME	CONTAINER
AC05791000	1 l	
AC0579005P	5 l	

## BORIC ACID, SOLUTION 4% W/V, WITH INDICATOR

AC0581 Boric acid, solution 4% w/v, with indicator, for Kjeldahl

• Tariff number: 3822 00 00 00

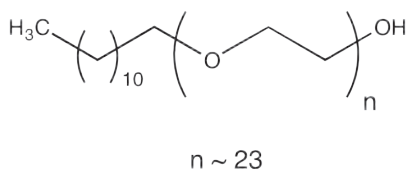
assay (acidimetric) ..... approx. 4 %  
 chlorides (Cl) ..... max. 0,0003 %  
 phosphates (as PO<sub>4</sub>) ..... max. 0,0005 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,0005 %  
 arsenic (As) ..... max. 0,5 ppm  
 heavy metals (as Pb) ..... max. 5 ppm

iron (Fe) ..... max. 1 ppm

ART. NO.	VOLUME	CONTAINER
AC05811000	1 l	☉

## BRIJ® 35

BR0017 Brij® 35 (Brij is a trademark of ICI America Inc.)



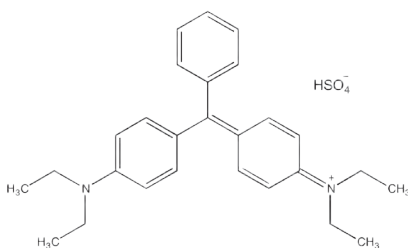
- Synonyms: Polyoxyethylene lauryl ether, Polyethyleneglycol lauryl ether
- (C<sub>27</sub>H<sub>54</sub>O<sub>n</sub>)<sub>n</sub>C<sub>12</sub>H<sub>25</sub>O
- CAS [9002-92-0]
- EINECS-No.: 500-002-6
- Solub. in water: (25 °C): soluble
- Melting point: 36 - 42 °C
- Boiling point: > 100 °C
- Flash pt. 149 °C
- Vapour pressure: (20 °C) 1,3 hPa
- LD 50 (oral, rat): 1000 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302 - H319
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 3402 13 00 90
- Applications: solvents, emulsifier, for pharmaceutical use.

hydroxyl index ..... 45 - 50  
 water (K.F.) ..... max. 3 %

ART. NO.	VOLUME	CONTAINER
BR00170250	250 g	☉
BR00171000	1 kg	☉

## BRILLIANT GREEN, C.I. 42040

VE0060 Brilliant green, C.I. 42040, for microscopy



- Synonyms: Diamond green G, Ethyl green, Solid green
- C<sub>27</sub>H<sub>34</sub>N<sub>2</sub>O<sub>4</sub>S
- M = 482,64 g/mol
- CAS [633-03-4]
- EINECS-No.: 211-190-1
- Solub. in water: (20 °C): ~ 100 g/l
- Melting point: ~ 180 °C
- LD 50 (oral, rat): ~ 300 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 3204 13 00 90
- Applications: analytical chemistry, for microbiology, manufacture of dyes, indicator.

Absorption maximum λ  
 (in ethanol 50 %) ..... 628 - 632 nm  
 Absorptivity (A1%/1 cm; λ max.) ..... 1750 - 2250  
 loss on drying (135°C) ..... max. 5 %

ART. NO.	VOLUME	CONTAINER
VE00600025	25 g	☉
VE00600100	100 g	☉

## BROMIDE-BROMATE, VOLUMETRIC SOLUTIONS

BR0070 Bromide-bromate, solution 0,05 mol/l (0,1 N), according to ASTM D5776-99



- Br<sup>-</sup> / BrO<sub>3</sub><sup>-</sup>
- Density: ~ 1,018 g/cm<sup>3</sup>
- LD 50 (oral, rat): 321 mg/kg (toxic component)
- GHS-signal word: Danger
- GHS-H sentences: H350
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor ..... 0,999 - 1,001  
 1 ml = 0,0078 g Br<sub>2</sub>

This volumetric solution was checked by means of potentiometric methods using a sodium thiosulfate standard solution, that was also checked against Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
BR00701000	1 l	☉

## BROMINE INDEX SOLUTION

ME0736 Bromine index solution, according to ASTM D5776-99



- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 CT1 II UN 2922
- IMDG: 8 II UN 2922
- IATA/ICAO: 8 II UN 2922
- GHS-signal word: Danger
- GHS-H sentences: H360D - H371 - H335 - H314 - H226 - H312
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, for determination of bromine index.

mixture according to:  
acetic acid (CH<sub>3</sub>COOH) . . . . . 714 ml  
methanol (CH<sub>3</sub>OH) . . . . . 134 ml  
n-methyl-2-pyrrolidone . . . . . 134 ml  
sulfuric acid 98 % (1: 5 in H<sub>2</sub>O) . . . . . 18 ml

ART. NO.	VOLUME	CONTAINER
ME07361000	1 l	0
ME07362500	2,5 l	0

## BROMINE WATER

AG0005 Bromine water, saturated solution



- Br<sub>2</sub>
- M = 159,92 g/mol
- CAS [7726-95-6]
- EINECS-No.: 231-778-1
- Density: ~ 1,008 g/cm<sup>3</sup>
- EC-Index-No.: 035-001-00-5
- ADR: 6.1 TC3 II UN 3289
- IMDG: 6.1 II UN 3289
- IATA/ICAO: 6.1 II UN 3289
- GHS-signal word: Danger

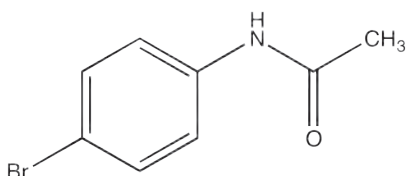
- GHS-H sentences: H318 - H315
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P321 - P362 - P332 + P313
- Tariff number: 2801 30 90 00
- Applications: analytical chemistry, laboratory reagent, manufacture of dyes, fumigant, inorganic salts, in the pharmaceuticals industry.

assay (bromometric) . . . . . approx. 3 %

ART. NO.	VOLUME	CONTAINER
AG00050500	500 ml	0

## p-BROMOACETANILIDE

BR0030 p-Bromoacetanilide, EssentQ®



- Synonyms: N-Acetyl-p-bromoaniline, 4'-Bromoacetanilide
- C<sub>9</sub>H<sub>8</sub>BrNO
- M = 214,07 g/mol
- CAS [103-88-8]
- EINECS-No.: 203-154-9
- Solub. in water: (20°C): insoluble
- Melting point: 164 - 167 °C
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2924 29 95 99
- Applications: synthesis of organic products, for pharmaceutical use.

assay (HPLC) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
BR00300100	100 g	0

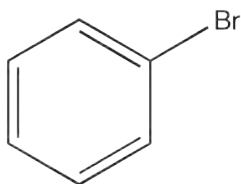
**Disposable,  
powder-free,  
blue nitrile gloves  
for examination**





## BROMOBENZENE

BR0060 Bromobenzene, EssentQ®



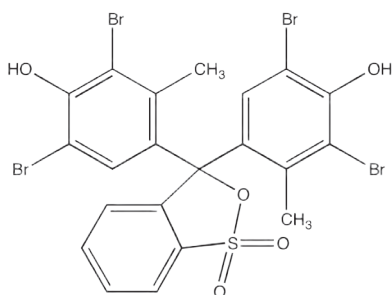
- Synonyms: Phenyl bromide
- $C_6H_5Br$
- $M = 157,02 \text{ g/mol}$
- CAS [108-86-1]
- EINECS-No.: 203-623-8
- Density:  $1,49 \text{ g/cm}^3$
- Solub. in water: (20 °C):  $4 \text{ g/l}$
- Melting point:  $-31 \text{ °C}$
- Boiling point:  $156 \text{ °C}$
- Flash pt.  $51 \text{ °C}$
- Ignition temp.:  $565 \text{ °C}$
- Vapour pressure: (20 °C)  $4 \text{ hPa}$
- Refraction index: (n 20 °C/D)  $1,5602$
- Dielectric const.: (20 °C)  $5,4$
- LD 50 (oral, rat):  $2699 \text{ mg/kg}$
- EC-Index-No.: 602-060-00-9
- ADR: 3 F1 III UN 2514
- IMDG: 3 III UN 2514
- IATA/ICAO: 3 III UN 2514
- GHS-signal word: Warning
- GHS-H sentences: H226 - H315 - H411
- GHS-P sentences: P210 - P241 - P280 - P303 + P361 + P353 - P321 - P501a
- Tariff number: 2903 99 90 90
- Applications: analytical chemistry, for organometallic compounds synthesizing.
- Appearance: Colourless to slightly yellow clear liquid

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,494 - 1,496  
 residue on evaporation . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
BR00600250	250 ml	0
BR00601000	1 l	0

## BROMOCRESOL GREEN

VE0070 Bromocresol green, indicator



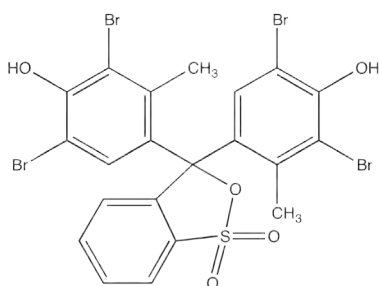
- Synonyms: 3,3',5,5'-Tetrabromo-m-cresolsulfon-phthalein, BCG
- $C_{21}H_{14}Br_4O_5S$
- $M = 698,04 \text{ g/mol}$
- CAS [76-60-8]
- EINECS-No.: 200-972-8
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, indicator.

pH range (yellow to blue) . . . . . 3,8 - 5,4  
 Absorption maximum  $\lambda_1$  (pH 3,5) . . . . . 444 - 445 nm  
 Absorption maximum  $\lambda_2$  (pH 5,4) . . . . . 615 - 618 nm  
 Absorptivity (A1%/1 cm;  $\lambda_1$ , pH 3,5;  
 on dried sample) . . . . . 265 - 275  
 Absorptivity (A1%/1 cm;  $\lambda_2$ , pH 5,4;  
 on dried sample) . . . . . 530 - 570  
 loss on drying (110 °C) . . . . . max. 5 %

ART. NO.	VOLUME	CONTAINER
VE00700001	1 g	0
VE00700005	5 g	0
VE00700025	25 g	0

## BROMOCRESOL GREEN, SOLUTION 0,04%

VE0075 Bromocresol green, solution 0,04%, indicator



- Synonyms: 3,3',5,5'-Tetrabromo-m-cresolsulfon-phthalein, BCG
- $C_{21}H_{14}Br_4O_5S$
- $M = 698,04 \text{ g/mol}$
- CAS [76-60-8]
- EINECS-No.: 200-972-8
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, indicator.

pH range (yellow to blue) . . . . . 3, 6 - 5,4

ART. NO.	VOLUME	CONTAINER
VE00750100	100 ml	0

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

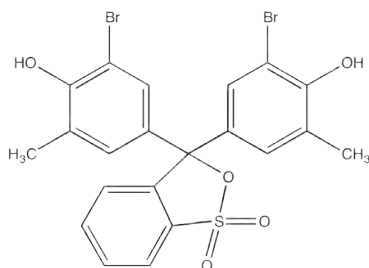
X

Y

Z

## BROMOCRESOL PURPLE

PU0020 Bromocresol purple, indicator



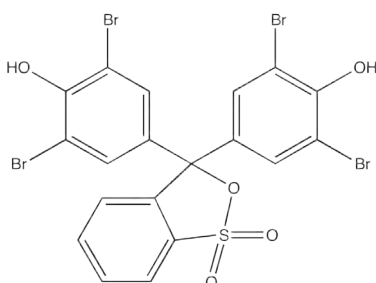
- Synonyms: 5',5''-Dibromo-o-cresolsulphonphthalein
- $C_{21}H_{16}Br_2O_5S$
- $M = 540,24$  g/mol
- CAS [115-40-2]
- EINECS-No.: 204-087-8
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, indicator.

pH range (greenish-yellow to blue-violet) ..... 5,2 - 6,8  
Absorption maximum  $\lambda_1$  (pH 5,2) ..... 427 - 431 nm  
Absorption maximum  $\lambda_2$  (pH 6,8) ..... 588 - 590 nm  
Absorptivity (A1%/1 cm;  $\lambda_1$ ; pH 5,2; on dried sample) ..... 400 - 450  
Absorptivity (A1%/1 cm;  $\lambda_2$ ; pH 6,8; on dried sample) ..... 1000 - 1100  
loss on drying (110 °C) ..... max. 1 %

ART. NO.	VOLUME	CONTAINER
PU00200005	5 g	0
PU00200025	25 g	0

## BROMOPHENOL BLUE

AZ0125 Bromophenol blue, indicator, ACS



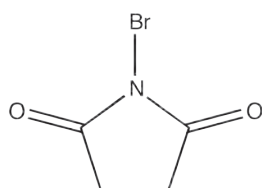
- Synonyms: BPB, 3,3',5,5'-Tetrabromophenolsulphonphthalein
- $C_{19}H_{10}Br_4O_3S$
- $M = 669,96$  g/mol
- CAS [115-39-9]
- EINECS-No.: 204-086-2
- Solub. in water: (20 °C): almost insoluble
- Melting point: 273 °C (decomposes)
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, indicator.

pH range (greenish-yellow to blue-violet) ..... 3,1 - 4,4  
Absorption maximum  $\lambda_1$  (pH 3,0) ..... 434 - 439 nm  
Absorption maximum  $\lambda_2$  (pH 4,6) ..... 590 - 593 nm  
Absorptivity (A1%/1 cm;  $\lambda_1$ ; pH 3,0 on dried sample) ..... 350 - 385  
Absorptivity (A1%/1 cm;  $\lambda_2$ ; pH 4,6 on dried sample) ..... 940 - 1000  
transition range acc. ACS ..... passes test  
loss on drying (110 °C) ..... max. 1 %

ART. NO.	VOLUME	CONTAINER
AZ01250005	5 g	0
AZ01250025	25 g	0

## n-BROMOSUCCINIMIDE

BR0120 N-Bromosuccinimide, EssentQ®



- Synonyms: NBS
- $C_4H_4BrNO_2$
- $M = 177,99$  g/mol
- CAS [128-08-5]
- EINECS-No.: 204-877-2
- Solub. in water: (25 °C): 14 g/l
- Melting point: 174 - 179 °C
- Vapour pressure: (20 °C) 14,8 hPa
- ADR: 8 C10 III UN 1759
- IMDG: 8 III UN 1759
- IATA/ICAO: 8 III UN 1759
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2925 19 95 99
- Applications: for bromination, oxidizing agent.

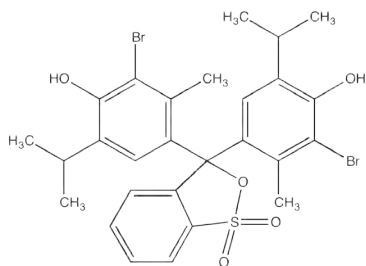
assay (iodometric) ..... min. 99 %  
identity (IR-spectrum) ..... passes test

ART. NO.	VOLUME	CONTAINER
BR01200250	250 g	0



## BROMOTHYMOLO BLUE

AZ0130 Bromothymol blue, indicator, ACS



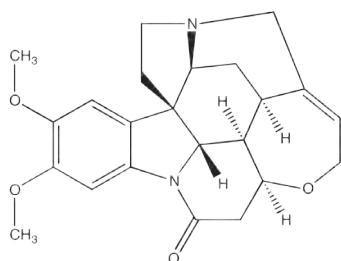
- Synonyms: 3',3''-Dibromothymol-sulfonphthalein, BTB
- $C_{27}H_{26}Br_2O_5$
- $M = 624,40$  g/mol
- CAS [76-59-5]
- EINECS-No.: 200-971-2
- Solub. in water: (20 °C): insoluble
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, indicator.

pH range (yellow to blue) . . . . . 5,8 - 7,6  
 Absorption maximum  $\lambda_1$  (pH 5,8) . . . . . 430 - 435 nm  
 Absorption maximum  $\lambda_2$  (pH 7,6) . . . . . 615 - 618 nm  
 Absorptivity (A1%/1 cm;  $\lambda_1$ ; pH 5,8  
 on dried sample) . . . . . 260 - 300  
 Absorptivity (A1%/1 cm;  $\lambda_2$ ; pH 7,6  
 on dried sample) . . . . . 470 - 520  
 transition range acc. ACS . . . . . passes test  
 loss on drying (110 °C) . . . . . max. 3 %

ART. NO.	VOLUME	CONTAINER
AZ01300005	5 g	0
AZ01300025	25 g	0

## BRUCINE

BR0269 Brucine, EssentQ®



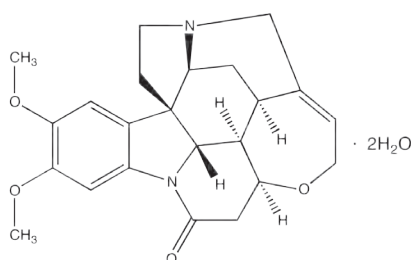
- Synonyms: 2,3-Dimethoxystrychnine
- $C_{23}H_{26}N_4O_4$
- $M = 394,45$  g/mol
- CAS [357-57-3]
- EINECS-No.: 206-614-7
- Solub. in water: (20 °C): slightly soluble
- Melting point: 176 - 180 °C
- LD 50 (oral, rat): 150 mg/kg
- EC-Index-No.: 614-006-00-1
- ADR: 6.1 T2 | UN 1570
- IMDG: 6.1 | UN 1570
- IATA/ICAO: 6.1 | UN 1570
- GHS-signal word: Danger
- GHS-H sentences: H300 - H330 - H412
- GHS-P sentences: P260 - P284 - P320 - P321 - P405 - P501a
- Tariff number: 2939 99 00 00
- Applications: synthesis of organic products, analytical chemistry, denaturing alcohols and oils.
- Appearance: White solid

assay (DSC, on dried sample) . . . . . min. 98,5 %  
 identity (IR-spectrum) . . . . . passes test  
 specific rotation ( $[\alpha]_{20}^{20}$ ; D; c = 2,5,  
 chloroform) . . . . . - 118° - - 128°  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (105°C, 3 h) . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
BR02690010	10 g	0

## BRUCINE DIHYDRATE

BR0270 Brucine dihydrate, ExpertQ®, for analysis



- Synonyms: 2,3-Dimethoxystrychnine dihydrate
- $C_{23}H_{26}N_4O_4 \cdot 2H_2O$
- $M = 430,50$  g/mol
- CAS [145428-94-0]
- EINECS-No.: 206-614-7
- Solub. in water: (20 °C): slightly soluble
- EC-Index-No.: 614-006-00-1
- ADR: 6.1 T2 | UN 1570
- IMDG: 6.1 | UN 1570
- IATA/ICAO: 6.1 | UN 1570
- GHS-signal word: Danger
- GHS-H sentences: H300 - H330 - H412
- GHS-P sentences: P260 - P284 - P320 - P321 - P405 - P501a
- Tariff number: 2939 99 00 00
- Applications: synthesis of organic products, analytical chemistry, denaturing alcohols and oils.

assay (titration with  $HClO_4$ ) . . . . . min. 99 %  
 specific rotation ( $[\alpha]_{20}^{20}$ ; D; c=1, ethanol) . . . . -75° - -80°  
 nitrates ( $NO_3$ ) . . . . . passes test  
 water (K.F.) . . . . . max. 8 %  
 residue on ignition . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
BR02700005	5 g	0

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

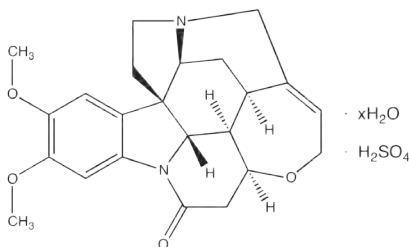
X

Y

Z

## BRUCINE SULFATE HYDRATE

BR0275 Brucine sulfate hydrate, ExpertQ®, for analysis



- Synonyms: 2,3-Dimethoxystrychnine sulfate salt
- $C_{46}H_{52}N_4O_8 \cdot H_2SO_4 \cdot xH_2O$
- $M = 887,03 \text{ g/mol}$
- CAS [652154-10-4]
- EINECS-No.: 225-432-9
- Melting point: 180 °C
- EC-Index-No.: 614-007-00-7 [1]
- ADR: 6.1 T2 | UN 2811
- IMDG: 6.1 | UN 2811
- IATA/ICAO: 6.1 | UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H300 - H330 - H412
- GHS-P sentences: P260 - P284 - P320 - P321 - P405 - P501a
- Tariff number: 2939 99 00 00
- Applications: analytical chemistry, for pharmaceutical use, for denaturing ethanol.

assay (titration with  $HClO_4$ ) ..... min. 98 %  
insoluble in water ..... passes test  
residue on ignition ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
BR02750025	25 g	0

## BUFFER SOLUTIONS, OTHER APPLICATIONS

SO1013 Buffer solution for complexometry, pH = 10 (ammonium chloride/ammonia)



- Density: 0,96 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Boiling point: 80 - 100 °C
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335

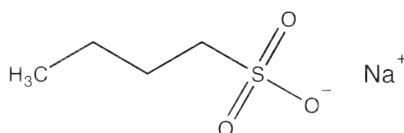
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C ..... 10,50 - 11,00

ART. NO.	VOLUME	CONTAINER
SO10130250	250 ml	0
SO10131000	1 l	0

## 1-BUTANE SULFONIC ACID, SODIUM SALT

AC0601 1-Butane sulfonic acid, sodium salt, HPLC grade

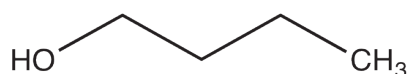


- Synonyms: Sodium 1-butylsulfonate
- $C_4H_9NaO_3S$
- $M = 160,17 \text{ g/mol}$
- CAS [2386-54-1]
- EINECS-No.: 219-201-1
- Solub. in water: (20 °C): soluble
- Melting point: > 310 °C
- Tariff number: 2904 10 00 90
- Applications: chromatography, synthesis of organic products.

assay (acidimetric) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
insoluble matter ..... passes test  
max. absorbance of an aqueous sol. 0,5 M in a 1 cm cell at wavelength ..... absorbance  
210 nm ..... 0,1 AU  
220 nm ..... 0,06 AU  
230 nm ..... 0,04 AU  
260 nm ..... 0,02 AU

ART. NO.	VOLUME	CONTAINER
AC06010025	25 g	0
AC06010100	100 g	0
AC06011000	1 kg	0

## 1-BUTANOL



- Synonyms: n-Butyl alcohol, Propylcarbinol
- $C_4H_{10}O$
- $M = 74,12 \text{ g/mol}$
- CAS [71-36-3]
- EINECS-No.: 200-751-6
- Density: 0,81 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 79 g/l
- Melting point: -89,5 °C
- Boiling point: 118 °C
- Flash pt. 34 °C
- Ignition temp.: 340 °C
- Vapour pressure: (20 °C) 6,7 hPa
- Refraction index: (n 20 °C/D) 1,3993
- Dielectric const.: (20 °C) 17,8
- LD 50 (oral, rat): 790 mg/kg






- EC-Index-No.: 603-004-00-6 [1]
- ADR: 3 F1 III UN 1120
- IMDG: 3 III UN 1120
- IATA/ICAO: 3 III UN 1120
- GHS-signal word: Danger
- GHS-H sentences: H318 - H226 - H302 - H335 - H336 - H315
- GHS-P sentences: P210 - P241 - P280 - P301 + P312 - P330 - P303 - P361 - P352 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2905 13 00 00
- Applications: solvents, synthesis of organic products, microscopy.
- Appearance: Colourless

## AL0170 1-Butanol, extra pure, Pharpur®, NF



assay (G.C.) . . . . . min. 99,5 %  
 identification . . . . . passes test  
 acidity . . . . . passes test  
 n-butyraldehyde (G.C.) . . . . . max. 0,1 %  
 2-butanol (G.C.) . . . . . max. 0,1 %  
 isobutyl alcohol . . . . . max. 0,1 %  
 butyl ether . . . . . max. 0,2 %  
 residue on evaporation . . . . . max. 0,004 %

water (K.F.) . . . . . max. 0,1 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.






ART. NO.	VOLUME	CONTAINER
AL01701000	1 l	
AL01702500	2,5 l	
AL0170005P	5 l	
AL0170025A	25 l	
AL0170025P	25 l	

## AL0173 1-Butanol, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,809 - 0,810  
 density (20°/20°) . . . . . 0,810 - 0,812  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 boiling point . . . . . 116 - 119 °C  
 acidity . . . . . max. 0,0008 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 aldehydes . . . . . passes test  
 carbonyl compounds (as CO) . . . . . max. 0,01 %  
 2-butanol (G.C.) . . . . . max. 0,05 %  
 butyraldehyde (G.C.) . . . . . max. 0,01 %  
 dibutyl ether (G.C.) . . . . . max. 0,1 %  
 isobutanol (G.C.) . . . . . max. 0,15 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,1 %



ART. NO.	VOLUME	CONTAINER
AL01731000	1 l	
AL01732500	2,5 l	
AL0173005P	5 l	
AL0173025A	25 l	
AL0173200L	200 l	

## AL0175 1-Butanol, HPLC grade



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,809 - 0,810  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 residue on evaporation . . . . . max. 0,0002 %  
 water (K.F.) . . . . . max. 0,1 %

min. transmission/max. absorbance in a 1,0 cm cell at wavelength  
 T(%) A (AU)  
 210 nm . . . . . 20 % 0,699 AU  
 220 nm . . . . . 50 % 0,301 AU  
 245 nm . . . . . 90 % 0,046 AU  
 Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
AL01751000	1 l	
AL01752500	2,5 l	

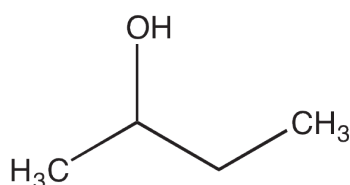
## AL0171 1-Butanol, standard substance for GC



assay . . . . . 99,8%  
 over ramp . . . . . 60°C, 6°C/min 160°C, 20°C/min 220°C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
AL01710005	5 ml	

## 2-BUTANOL





- Synonyms: sec-Butyl alcohol, Butyl alcohol secondary, Ethyl methyl carbinol
- C<sub>4</sub>H<sub>10</sub>O
- M = 74,12 g/mol
- CAS [78-92-2]
- EINECS-No.: 201-158-5
- Density: 0,81 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 240 - 250 g/l
- Melting point: -89 °C
- Boiling point: 98,5 - 100,5 °C
- Flash pt. 24 °C
- Ignition temp.: 390 °C
- Vapour pressure: (20 °C) 16,5 hPa

- Dielectric const.: (20 °C) 15,8
- LD 50 (oral, rat): 6480 mg/kg
- EC-Index-No.: 603-004-01-3 [1]
- ADR: 3 F1 III UN 1120
- IMDG: 3 III UN 1120
- IATA/ICAO: 3 III UN 1120
- GHS-signal word: Warning
- GHS-H sentences: H226 - H319 - H335 - H336
- GHS-P sentences: P210 - P243 - P260 - P280 - P304 + P340 - P305 + P351 + P338 - P308 + P313
- Tariff number: 2905 14 90 00
- Applications: analytical chemistry, synthesis of organic products and perfumery.

## AL0176 2-Butanol, EssentQ®



assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,806 - 0,808  
 residue on evaporation . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AL01761000	1 l	
AL0176005P	5 l	

ART. NO.	VOLUME	CONTAINER
AL0176025P	25 l	



AL0177 2-Butanol, ExpertQ®, for analysis



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,805 - 0,809  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0005 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
alkalinity . . . . . max. 0,0002 meq/g  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
tert-butanol (G.C.) . . . . . max. 0,1 %  
dibutyl ether (G.C.) . . . . . max. 0,2 %  
methylethylketone (G.C.) . . . . . max. 0,1 %  
2-propanol (G.C.) . . . . . max. 0,2 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AL01771000	1 l	0
AL01772500	2,5 l	0

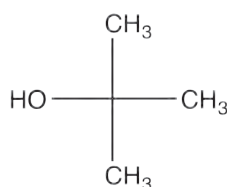
AL0181 2-Butanol, standard substance for GC



assay . . . . . 99,9%  
over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200°C  
identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
AL01810005	5 ml	0

**tert-BUTANOL**



- Synonyms: 2-Methyl-2-propanol, Trimethylcarbinol, tert-Butyl alcohol
- (C<sub>4</sub>H<sub>9</sub>)COH
- M = 74,12 g/mol
- CAS [75-65-0]
- EINECS-No.: 200-889-7
- Density: 0,78 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 25,3 °C
- Boiling point: 82 - 83 °C
- Flash pt. 14 °C
- Ignition temp.: 490 °C
- Vapour pressure: (20 °C) 40,7 hPa

- Dielectric const.: (30 °C) 10,9
- LD 50 (oral, rat): 2733 mg/kg
- EC-Index-No.: 603-005-00-1
- ADR: 3 F1 II UN 1120
- IMDG: 3 II UN 1120
- IATA/ICAO: 3 II UN 1120
- GHS-signal word: Danger
- GHS-H sentences: H225 - H332 - H319 - H335
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2905 14 10 00
- Applications: solvents, perfumery, as gasoline additive.

AL0180 tert-Butanol, EssentQ®



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
residue on evaporation . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AL01801000	1 l	0
AL0180005P	5 l	0

ART. NO.	VOLUME	CONTAINER
AL0180025P	25 l	0

AL0183 tert-Butanol, ExpertQ®, for analysis, ACS

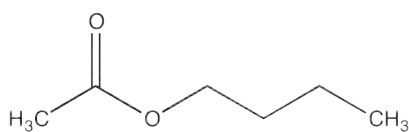


assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0005 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
carbonyl compounds (as C<sub>3</sub>H<sub>7</sub>CHO) . . . . . max. 0,01 %  
residue on evaporation . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AL01831000	1 l	0
AL01832500	2,5 l	0
AL0183005P	5 l	0
AL0183025P	25 l	0
AL0183200L	200 l	0

**n-BUTYL ACETATE**



- Synonyms: Acetic acid n-butyl ester
- C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>
- M = 116,16 g/mol
- CAS [123-86-4]
- EINECS-No.: 204-658-1
- Density: 0,88 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 7 g/l
- Melting point: -77 °C
- Boiling point: 127 °C
- Flash pt. 27 °C
- Ignition temp.: 370 °C
- Vapour pressure: (20 °C) ~ 13 hPa
- Refraction index: (n 20 °C/D) 1,3941
- Dielectric const.: (20 °C) 5,0

- LD 50 (oral, rat): 13100 mg/kg
- EC-Index-No.: 607-025-00-1
- ADR: 3 F1 III UN 1123
- IMDG: 3 III UN 1123
- IATA/ICAO: 3 III UN 1123
- GHS-signal word: Warning
- GHS-H sentences: H226 - H336 - EUH066
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2915 33 00 00
- Applications: analytical chemistry, laboratory reagent, manufacturing of lacquers, in the textile industry, photography, plasticizer, manufacture of glass.

## AC0090 n-Butyl acetate, EssentQ®



assay (G.C.) . . . . .	min. 99 %	water (K.F.) . . . . .	max. 0,05 %
identity (IR-spectrum) . . . . .	.passes test		
density (20°/4°) . . . . .	0,879 - 0,881		
acidity (as CH <sub>3</sub> COOH) . . . . .	max. 0,01 %		
residue on evaporation . . . . .	max. 0,005 %		

ART. NO.	VOLUME	CONTAINER
AC00901000	1 l	0
AC00902500	2,5 l	0
AC0090005P	5 l	0

## AC0093 n-Butyl acetate, ExpertQ®, for analysis, ACS



assay (G.C.) . . . . .	min. 99,5 %	iron (Fe) . . . . .	max. 0,1 ppm
identity (IR-spectrum) . . . . .	.passes test	lead (Pb) . . . . .	max. 0,1 ppm
density (20°/4°) . . . . .	0,879 - 0,881	magnesium (Mg) . . . . .	max. 0,1 ppm
colour (Hazen) . . . . .	max. 10	manganese (Mn) . . . . .	max. 0,02 ppm
acidity . . . . .	max. 0,0016 meq/g	nickel (Ni) . . . . .	max. 0,02 ppm
aluminium (Al) . . . . .	max. 0,5 ppm	tin (Sn) . . . . .	max. 0,1 ppm
barium (Ba) . . . . .	max. 0,1 ppm	zinc (Zn) . . . . .	max. 0,1 ppm
boron (B) . . . . .	max. 0,02 ppm	n-butanol (G.C.) . . . . .	max. 0,2 %
cadmium (Cd) . . . . .	max. 0,05 ppm	n-butyl formate (G.C.) . . . . .	max. 0,1 %
calcium (Ca) . . . . .	max. 0,5 ppm	n-butyl propionate (G.C.) . . . . .	max. 0,1 %
chromium (Cr) . . . . .	max. 0,02 ppm	substances darkened by H <sub>2</sub> SO <sub>4</sub> . . . . .	.passes test
cobalt (Co) . . . . .	max. 0,02 ppm	residue on evaporation . . . . .	max. 0,001 %
copper (Cu) . . . . .	max. 0,02 ppm	water (K.F.) . . . . .	max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC00931000	1 l	0
AC00932500	2,5 l	0
AC0093025A	25 l	0

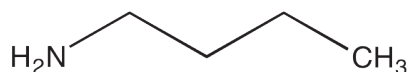
## AC0091 n-Butyl acetate, standard substance for GC



assay . . . . .	.99,8%
over ramp . . . . .	.60°C, 6°C/min 160°C, 20°C/min 220°C
identity . . . . .	.IR

ART. NO.	VOLUME	CONTAINER
AC00910005	5 ml	0

## n-BUTYLAMINE



- Synonyms: 1-Aminobutane
- C<sub>4</sub>H<sub>11</sub>N
- M = 73,14 g/mol
- CAS [109-73-9]
- EINECS-No.: 203-699-2
- Density: 0,74 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -50 °C
- Boiling point: 76 - 78 °C
- Flash pt. -12 °C
- Ignition temp.: 290 °C
- Vapour pressure: (20 °C) 93 hPa
- Refraction index: (n 20 °C/D) 1,4015
- LD 50 (oral, rat): 366 mg/kg

- EC-Index-No.: 612-005-00-0
- ADR: 3 FC II UN 1125
- IMDG: 3 II UN 1125
- IATA/ICAO: 3 II UN 1125
- GHS-signal word: Danger
- GHS-H sentences: H225 - H314 - H302 - H312 - H332
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2921 19 80 90
- Applications: synthesis of organic products, for pharmaceutical use, manufacture of dyes, in the rubber industry, emulsifier, insecticide, cosmetics.

## BU0020 n-Butylamine, EssentQ®



assay (G.C.) . . . . .	min. 99 %	water (K.F.) . . . . .	max. 0,2 %
identity (IR-spectrum) . . . . .	.passes test		
density (20°/4°) . . . . .	0,736 - 0,738		
residue on evaporation . . . . .	max. 0,005 %		

ART. NO.	VOLUME	CONTAINER
BU00201000	1 l	0
BU0020025A	25 l	0

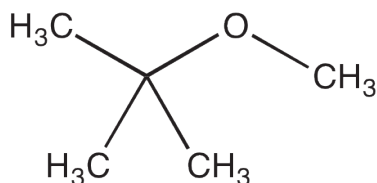
## BU0022 n-Butylamine, ExpertQ®, for analysis



assay (G.C.) . . . . .	min. 99,5 %	heavy metals (as Pb) . . . . .	max. 0,5 ppm
identity (IR-spectrum) . . . . .	.passes test	iron (Fe) . . . . .	max. 0,5 ppm
density (20°/4°) . . . . .	0,736 - 0,738	residue on evaporation . . . . .	max. 0,0005 %
chlorides (Cl) . . . . .	max. 0,0005 %	water (K.F.) . . . . .	max. 0,1 %

ART. NO.	VOLUME	CONTAINER
BU00221000	1 l	0

## tert-BUTYL METHYL ETHER



- Synonyms: Methyl tert-butyl ether, MTBE
- C<sub>5</sub>H<sub>12</sub>O
- M = 88,15 g/mol
- CAS [1634-04-4]
- EINECS-No.: 216-653-1
- Density: 0,74 g/cm<sup>3</sup>
- Solub. in water: (10 °C): ~ 26 g/l
- Melting point: -110 °C
- Boiling point: 55 °C
- Flash pt. -28 °C
- Ignition temp.: 460 °C
- Vapour pressure: (20 °C) 268 hPa

- Refraction index: (25 °C) 1,3664
- LD 50 (oral, rat): 3870 mg/kg
- ADR: 3 F1 II UN 2398
- IMDG: 3 II UN 2398
- IATA/ICAO: 3 II UN 2398
- GHS-signal word: Danger
- GHS-H sentences: H225 - H315
- GHS-P sentences: P210 - P240 - P302 + P352 -
- Tariff number: 2909 19 90 00
- Applications: analytical chemistry, laboratory reagent, chromatography, solvents, as gasoline additive.
- Appearance: Colourless clear liquid

### ME0550 tert-Butyl methyl ether, EssentQ®



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,740 - 0,742  
acidity . . . . . max. 0,002 meq/g  
copper (Cu) . . . . . max. 0,2 ppm  
iron (Fe) . . . . . max. 0,2 ppm  
lead (Pb) . . . . . max. 0,2 ppm

nickel (Ni) . . . . . max. 0,2 ppm  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
residue on evaporation . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ME05501000	1 l	0
ME05502500	2,5 l	0
ME0550025A	25 l	0
ME0550200L	200 l	0

### ME0551 tert-Butyl methyl ether, ExpertQ®, for analysis, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,740 - 0,742  
refractive index n<sub>20</sub>/D . . . . . 1,368 - 1,370  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0005 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,0005 %  
residue on evaporation . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
ME05511000	1 l	0
ME05512500	2,5 l	0
ME0551007E	7 l	0
ME0551025S	25 l	0

### ME0552 tert-Butyl methyl ether, HPLC grade



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,740 - 0,742  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
residue on evaporation . . . . . max. 0,0002 %  
water (K.F.) . . . . . max. 0,02 %

min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A(AU)  
240 nm 50 % 0,301 AU  
255 nm 80 % 0,097 AU  
280 nm 98 % 0,009 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
ME05521000	1 l	0
ME05522500	2,5 l	0
ME05524000	4 l	0

### ME0553 tert-Butyl methyl ether, for GC residue analysis



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,740 - 0,742  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,02 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
ME05531000	1 l	0
ME05532500	2,5 l	0

### ME0558 Tert-Butyl methyl ether, standard substance for GC



assay . . . . . 99,9%  
over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200°C  
identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
ME05580005	5ml	0

## CADMIUM


CA0080 Cadmium, metal, EssentQ®, Reag. Ph Eur



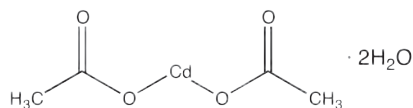
- Cd
- M = 112,40 g/mol
- CAS [7440-43-9]
- EINECS-No.: 231-152-8
- Solub. in water: (20 °C): insoluble
- Melting point: 321 °C
- Boiling point: 767 °C
- Vapour pressure: (394 °C) 1,3 hPa
- LD 50 (oral, rat): 225 mg/kg
- EC-Index-No.: 048-002-00-0 [1]
- ADR: 6.1 T5 I UN 3288
- IMDG: 6.1 I UN 3288

- IATA/ICAO: 6.1 I UN 3288
- GHS-signal word: Danger
- GHS-H sentences: H330 - H350 - H372 - H341 - H361fd - H400 - H410
- GHS-P sentences: P260 - P284 - P281 - P320 - P405 - P501a
- Tariff number: 8107 20 00 00
- Applications: analytical chemistry, laboratory reagent, electrolyte for batteries.

assay (complexometric) ..... min. 99 %  
 copper (Cu) ..... max. 0,01%  
 iron (Fe) ..... max. 0,005%  
 lead (Pb) ..... max. 0,05%  
 nickel (Ni) ..... max. 0,05%  
 tin (Sn) ..... max. 0,05%  
 zinc (Zn) ..... max. 0,005%

ART. NO.	VOLUME	CONTAINER
CA00800250	250 g	

## CADMIUM ACETATE DIHYDRATE



- Synonyms: Acetic acid cadmium salt
- Cd(CH<sub>3</sub>COO)<sub>2</sub> · 2H<sub>2</sub>O
- M = 266,52 g/mol
- CAS [5743-04-4]
- EINECS-No.: 208-853-2
- Solub. in water: (20 °C): freely soluble
- Melting point: 256 °C (anhydrous substance)
- EC-Index-No.: 048-001-00-5
- ADR: 6.1 T5 III UN 2570
- IMDG: 6.1 III UN 2570

- IATA/ICAO: 6.1 III UN 2570
- GHS-signal word: Warning
- GHS-H sentences: H400 - H410 - H302 - H312 - H332
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 2915 29 00 90
- Applications: analytical chemistry, laboratory reagent, for the detection of: sulfur, selenium, tellurium.
- Appearance: White solid

CA0048 Cadmium acetate dihydrate, EssentQ®



arsenic (As) ..... max. 8 ppm  
 pH (5 %, H<sub>2</sub>O) ..... 6, 5- 7,5  
 chlorides (Cl) ..... max. 0,002 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,01 %

copper (Cu) ..... max. 5 ppm  
 lead (Pb) ..... max. 0,005 %  
 iron (Fe) ..... max. 0,001 %  
 zinc (Zn) ..... max. 0,005 %






ART. NO.	VOLUME	CONTAINER
CA00480250	250 g	

CA0050 Cadmium acetate dihydrate, ExpertQ®, for analysis



assay (complexometric) ..... min. 99 %  
 insoluble in water ..... max. 0,005 %  
 chlorides (Cl) ..... max. 0,001 %  
 nitrates (NO<sub>3</sub>) ..... max. 0,002 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,005 %  
 sulfides (S) ..... max. 0,002 %  
 aluminium (Al) ..... max. 0,005 %  
 calcium (Ca) ..... max. 0,005 %

copper (Cu) ..... max. 5 ppm  
 iron (Fe) ..... max. 5 ppm  
 lead (Pb) ..... max. 0,001 %  
 potassium (K) ..... max. 0,005 %  
 sodium (Na) ..... max. 0,002 %  
 zinc (Zn) ..... max. 0,002 %  
 non precipitable with H<sub>2</sub>S (as SO<sub>4</sub>) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
CA00500100	100 g	
CA00500250	250 g	
CA00501000	1 kg	
CA0050005P	5 kg	
CA0050025P	25 kg	

## CADMIUM CHLORIDE 2,5-HYDRATE

CA0060 Cadmium chloride 2,5-hydrate, EssentQ®



- CdCl<sub>2</sub> · 2,5H<sub>2</sub>O
- M = 228,34 g/mol
- CAS [7790-78-5]
- EINECS-No.: 640-998-0
- Solub. in water: (25 °C): freely soluble
- LD 50 (oral, rat): 665 mg/kg
- EC-Index-No.: 048-008-00-3
- ADR: 6.1 T5 II UN 2570
- IMDG: 6.1 II UN 2570
- IATA/ICAO: 6.1 II UN 2570
- GHS-signal word: Danger
- GHS-H sentences: H301 - H330 - H340 - H350 - H360 - H372 - H400 - H410

- GHS-P sentences: P260 - P284 - P320 - P321 - P405 - P501a
- Tariff number: 2827 39 80 90
- Applications: analytical chemistry, laboratory reagent, electrolyte for batteries, metal alloys, in solders (aluminium), in galvanotechnia.
- Appearance: White chunks

assay (complexometric) ..... 98 - 102 %  
 insoluble in water ..... max. 0,01 %  
 nitrates and nitrites (as NO<sub>2</sub>) ..... max. 0,02 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,01 %  
 ammonium (NH<sub>4</sub>) ..... max. 0,02 %  
 arsenic (As) ..... max. 1 ppm  
 copper (Cu) ..... max. 0,002 %  
 iron (Fe) ..... max. 0,002 %  
 lead (Pb) ..... max. 0,01 %  
 zinc (Zn) ..... max. 0,05 %

ART. NO.	VOLUME	CONTAINER
CA00600250	250 g	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## CADMIUM NITRATE TETRAHYDRATE

- Synonyms: Nitric acid cadmium salt tetrahydrate
- $\text{Cd}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$
- $M = 308,47 \text{ g/mol}$
- CAS [10022-68-1]
- EINECS-No.: 233-710-6
- Solub. in water: (20 °C): soluble
- Melting point: 59 °C

- LD 50 (oral, rat): 300 mg/kg
- EC-Index-No.: 048-001-00-5
- ADR: 6.1 T5 III UN 2570
- IMDG: 6.1 III UN 2570
- IATA/ICAO: 6.1 III UN 2570
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H330 - H410

- GHS-P sentences: P201 - P260 - P280 - P301 - P310 - P330 - P331 - P304 - P340 - P310 - P501a
- Tariff number: 2834 29 20 00
- Applications: analytical chemistry, laboratory reagent, photography, for the synthesis of: cadmium salts.
- Appearance: White crystals

### CA0097 Cadmium nitrate tetrahydrate, EssentQ®



assay (complexometric) .....min. 99 %  
insoluble in water .....max. 0,01 %  
chlorides (Cl) .....max. 0,005 %  
ammonium ( $\text{NH}_4$ ) .....max. 0,03 %  
copper (Cu) .....max. 0,003 %

iron (Fe) .....max. 0,001 %  
lead (Pb) .....max. 0,005 %  
sodium (Na) .....max. 0,01 %  
zinc (Zn) .....max. 0,005 %

ART. NO.	VOLUME	CONTAINER
CA00970250	250 g	Ⓟ

### CA0100 Cadmium nitrate tetrahydrate, ExpertQ®, for analysis



assay (complexometric) .....min. 99 %  
insoluble in water .....max. 0,005 %  
pH (5 %,  $\text{H}_2\text{O}$ ) ..... 4,5 - 7,0  
chlorides (Cl) .....max. 0,001 %  
phosphates (as  $\text{PO}_4$ ) .....max. 0,001 %  
sulfates ( $\text{SO}_4$ ) .....max. 0,005 %  
ammonium ( $\text{NH}_4$ ) .....max. 0,01 %  
barium (Ba) .....max. 0,005 %  
calcium (Ca) .....max. 0,005 %

copper (Cu) .....max. 0,001 %  
heavy metals (as Pb) .....max. 5 ppm  
iron (Fe) .....max. 0,001 %  
lead (Pb) .....max. 0,005 %  
magnesium (Mg) .....max. 0,01 %  
potassium (K) .....max. 0,002 %  
sodium (Na) .....max. 0,01 %  
strontium (Sr) .....max. 0,01 %  
zinc (Zn) .....max. 0,005 %

ART. NO.	VOLUME	CONTAINER
CA01000250	250 g	Ⓟ
CA01001000	1 kg	Ⓟ

## CADMIUM OXIDE

### CA0110 Cadmium oxide, EssentQ®



- CdO
- $M = 128,40 \text{ g/mol}$
- CAS [1306-19-0]
- EINECS-No.: 215-146-2
- Solub. in water: (20 °C): insoluble
- Melting point: < 1426 °C
- Boiling point: 1559 °C
- LD 50 (oral, rat): 72 mg/kg
- EC-Index-No.: 048-002-00-0
- ADR: 6.1 T5 III UN 2570
- IMDG: 6.1 III UN 2570
- IATA/ICAO: 6.1 III UN 2570
- GHS-signal word: Danger
- GHS-H sentences: H330 - H350 - H372 - H341 - H361fd - H400 - H410

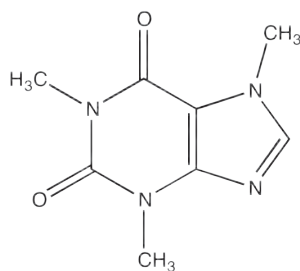
- GHS-P sentences: P260 - P284 - P281 - P320 - P405 - P501a
- Tariff number: 2825 90 60 00
- Applications: synthesis of organic products, electrolyte for batteries, laboratory reagent.
- Appearance: Reddish-brown solid

assay (complexometric) .....min. 99 %  
chlorides (Cl) .....max. 0,002 %  
sulfates ( $\text{SO}_4$ ) .....max. 0,01 %  
copper (Cu) .....max. 0,001 %  
iron (Fe) .....max. 0,001 %  
nickel (Ni) .....max. 0,005 %  
lead (Pb) .....max. 0,005 %  
zinc (Zn) .....max. 0,005 %  
grain size (D50) .....0,5 - 1,5 mm  
spec. surface (BET) .....2 - 4  $\text{m}^2/\text{g}$

ART. NO.	VOLUME	CONTAINER
CA01100250	250 g	Ⓟ
CA0110025P	25 kg	Ⓟ

## CAFFEINE ANHYDROUS

### CA0150 Caffeine anhydrous, extra pure, Pharmpur®, Ph Eur, BP, USP



- Synonyms: 7-Methyltheobromine, 1,3,7-Trimethylxanthine, 3,7-Dihydro-1,3,7-trimethyl-1H-purine-2,6-dione
- $\text{C}_8\text{H}_{10}\text{N}_4\text{O}_2$
- $M = 194,19 \text{ g/mol}$
- CAS [58-08-2]
- EINECS-No.: 200-362-1
- Solub. in water: (20 °C): 20 g/l
- Melting point: 235 - 238 °C
- Ignition temp.: > 600 °C
- LD 50 (oral, rat): 261 - 383 mg/kg
- EC-Index-No.: 613-086-00-5
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2939 30 00 00
- Applications: analytical chemistry, for pharmaceutical use, in food industry, in pharma industry.

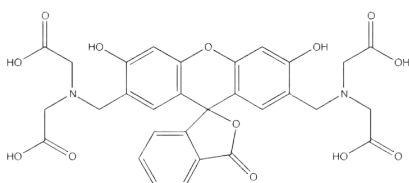
assay (titration with  $\text{HClO}_4$  on dried sample) ..... 98,5 - 101,5 %  
Assay (HPLC, referred to dried sample) ..... 98,5 - 101,0 %  
identification .....passes test  
appearance of solution .....clear and colourless  
acidity .....passes test  
related substances .....passes test  
sulfates ( $\text{SO}_4$ ) .....max. 500 ppm  
loss on drying (105 °C) .....max. 0,5 %  
water .....max. 0,5 %  
residue on ignition .....max. 0,1 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CA01501000	1 kg	Ⓟ
CA0150005P	5 kg	Ⓟ



## CALCEIN

CA0165 Calcein, indicator for metal titration



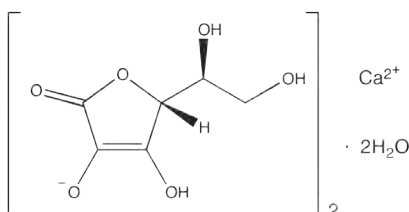
- Synonyms: 2,7-Bis[bis(carboxymethyl)aminomethyl] fluorescein, Fluorescein complexon, Fluorexon
- $C_{30}H_{26}N_2O_{13}$
- M = 622,55 g/mol
- CAS [1461-15-0]
- EINECS-No.: 215-957-1
- Solub. in water: (20 °C): sparingly soluble
- Tariff number: 3204 19 00 90
- Applications: analytical chemistry, indicator, for determination of: calcium.

Absorption maximum  $\lambda$  (in NaOH)  
0,002 M ..... 492 - 500 nm  
Absorptivity (A1%/1 cm;  $\lambda$  max.) ..... 800 - 1000  
insoluble in NaOH ..... passes test  
loss on drying (135°C) ..... max.10 %  
Suitability as complexometric indicator ..... passes test

ART. NO.	VOLUME	CONTAINER
CA01650001	1 g	0
CA01650005	5 g	0

## CALCIUM L(+)-ASCORBATE

CA0180 Calcium L(+)-ascorbate, extra pure, Pharmpur®, USP



- Synonyms: L-(+)-Ascorbic acid calcium salt
- $C_{12}H_{14}CaO_{12} \cdot 2H_2O$
- M = 426,35 g/mol
- CAS [5743-28-2]
- EINECS-No.: 227-261-5
- Solub. in water: (20 °C): soluble
- Tariff number: 2936 27 00 00
- Applications: antioxidant (in food industry), in the pharmaceuticals industry, in pharma industry.

assay (iodometric) ..... 98,0 - 101,0 %  
identification ..... passes test  
pH (1 %,  $H_2O$ ) ..... 6,8 - 7,4  
specific rotation ( $[\alpha]_{25}^D$ ; c=5,  $H_2O$ ) ..... + 95 - + 97 °  
fluorides (F) ..... max. 10 ppm  
arsenic (As) ..... max. 3 ppm  
loss on drying (105 °C) ..... max. 0,1 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CA01801000	1 kg	0

## CALCIUM CARBONATE, PRECIPITATED

- Synonyms: Lime, Chalk, Marble
- $CaCO_3$
- M = 100,09 g/mol
- CAS [471-34-1]

- EINECS-No.: 207-439-9
- Solub. in water: (20 °C): 14 mg/l
- Melting point: 825 °C (decomposes)
- LD 50 (oral, rat): 6450 mg/kg

- Tariff number: 2836 50 00 00
- Applications: painting, in the rubber industry, plasticizer, dentifrices, in porcelain industry, insecticide, in food industry, cosmetics, for pharmaceutical use.

CA0182 Calcium carbonate, precipitated, extra pure, Pharmpur®, Ph Eur, BP, USP

assay (complexometric, on dried sample) ..... 98,5 - 100,5 %  
identification ..... passes test  
insoluble in  $CH_3COOH$  ..... max. 0,2 %  
insoluble in HCl ..... max. 0,2 %  
chlorides (Cl) ..... max. 0,033 %  
sulfates ( $SO_4$ ) ..... max. 0,25 %  
arsenic (As) ..... max. 3 ppm  
barium (Ba) ..... passes test

heavy metals (as Pb) ..... max. 0,002 %  
mercury (Hg) ..... max. 0,5 ppm  
fluorides (F) ..... max. 0,005 %  
lead (Pb) ..... max. 3 ppm  
iron (Fe) ..... max. 200 ppm  
magnesium and alkali metals ..... max. 1,5 %  
loss on drying (200°C, 4 h) ..... max. 2 %  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CA01820100	100 ml	0
CA01820500	500 g	0
CA01821000	1 kg	0
CA0182005P	5 kg	0
CA0182025P	25 kg	0

CA0184 Calcium carbonate, precipitated, ExpertQ®, for analysis, Reag. Ph Eur

assay (complexometric, on dried sample) ..... min. 99 %  
insoluble in  $CH_3COOH$  ..... max. 0,2 %  
insoluble in HCl ..... max. 0,005 %  
total nitrogen (as N) ..... max. 0,001 %  
chlorides (Cl) ..... max. 0,005 %  
sulfates ( $SO_4$ ) ..... max. 0,02 %  
aluminium (Al) ..... max. 0,005 %  
arsenic (As) ..... max. 4 ppm  
barium (Ba) ..... max. 0,005 %  
copper (Cu) ..... max. 5 ppm  
heavy metals (as Pb) ..... max. 0,002 %

iron (Fe) ..... max. 200 ppm  
lead (Pb) ..... max. 5 ppm  
magnesium (Mg) ..... max. 0,05 %  
magnesium and alkali metals ..... max. 1,5 %  
potassium (K) ..... max. 0,01 %  
sodium (Na) ..... max. 0,2 %  
strontium (Sr) ..... max. 0,1 %  
zinc (Zn) ..... max. 0,001 %  
non precipitable with  $(NH_4)_2C_2O_4$  ..... max. 1 %  
loss on drying (200°C, 4 h) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
CA01840500	500 g	0
CA01841000	1 kg	0
CA0184025P	25 kg	0

## CA0185 Calcium carbonate, secondary standard for volumetric titrations, Titasure®

assay (on dried sample) . . . . .	99,5 - 100,1 %	heavy metals (as Pb) . . . . .	max. 0,001 %
insoluble in diluted HCl . . . . .	max. 0,01 %	iron (Fe) . . . . .	max. 0,002 %
chlorides (Cl) . . . . .	max. 0,001 %	magnesium (Mg) . . . . .	max. 0,01 %
fluorides (F) . . . . .	max. 0,0015 %	potassium (K) . . . . .	max. 0,01 %
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,005 %	sodium (Na) . . . . .	max. 0,01 %
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,003 %	strontium (Sr) . . . . .	max. 0,1 %
barium (Ba) . . . . .	max. 0,01 %		

ART. NO.	VOLUME	CONTAINER
CA01850060	60 g	

## CALCIUM CHLORIDE ANHYDROUS

- Synonyms: Chloro calcium
- CaCl<sub>2</sub>
- M = 110,99 g/mol
- CAS [10043-52-4]
- EINECS-No.: 233-140-8
- Solub. in water: (20 °C): 740 g/l

- Melting point: 772 °C
- Boiling point: > 1600 °C
- LD 50 (oral, rat): 1000 mg/kg
- EC-Index-No.: 017-013-00-2
- GHS-signal word: Warning
- GHS-H sentences: H319

- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2827 20 00 00
- Applications: analytical chemistry, laboratory reagent, desiccant.

## CA0190 Calcium chloride anhydrous, granulated, EssentQ®



assay (complexometric) . . . . .	min. 94 %	iron (Fe) . . . . .	max. 0,005 %
insoluble in water . . . . .	max. 0,1 %	magnesium (Mg) . . . . .	max. 0,1 %
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,05 %		
barium (Ba) . . . . .	max. 0,01 %		
heavy metals (as Pb) . . . . .	max. 0,002 %		

ART. NO.	VOLUME	CONTAINER
CA01900500	500 g	
CA01901000	1 kg	
CA0190005P	5 kg	

## CA0197 Calcium chloride anhydrous, powder, EssentQ®







assay (argentometric) . . . . .	min. 95 %	arsenic (As) . . . . .	max. 1 ppm
insoluble in water and precipitable with		copper (Cu) . . . . .	max. 0,002%
acidity (as HCl) . . . . .	max. 0,01 %	iron (Fe) . . . . .	max. 0,005%
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,005 %	lead (Pb) . . . . .	max. 0,002%
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,05 %	nickel (Ni) . . . . .	max. 0,002%
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,01 %		

ART. NO.	VOLUME	CONTAINER
CA01970500	500 g	
CA01971000	1 kg	
CA0197005P	5 kg	

## CA0192 Calcium chloride anhydrous, powder, ExpertQ®, for analysis



assay (argentometric) . . . . .	min. 96 %	copper (Cu) . . . . .	max. 5 ppm
acidity (as HCl) . . . . .	max. 0,005 %	iron (Fe) . . . . .	max. 0,0025 %
alkalinity (as Ca(OH) <sub>2</sub> ) . . . . .	max. 0,5 %	lead (Pb) . . . . .	max. 5 ppm
nitrates (NO <sub>3</sub> ) . . . . .	max. 0,01 %	magnesium (Mg) . . . . .	max. 0,1 %
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,001 %	manganese (Mn) . . . . .	max. 5 ppm
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,02 %	nickel (Ni) . . . . .	max. 5 ppm
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,005 %	potassium (K) . . . . .	max. 0,1 %
arsenic (As) . . . . .	max. 0,0001 %	sodium (Na) . . . . .	max. 0,1 %
barium (Ba) . . . . .	max. 0,02 %	zinc (Zn) . . . . .	max. 0,01 %

ART. NO.	VOLUME	CONTAINER
CA01920500	500 g	
CA01921000	1 kg	
CA0192005P	5 kg	
CA0192025P	25 kg	

## CALCIUM CHLORIDE DIHYDRATE

- CaCl<sub>2</sub>·2H<sub>2</sub>O
- M = 147,02 g/mol
- CAS [10035-04-8]
- EINECS-No.: 233-140-8
- Melting point: ~ 176 °C
- LD 50 (oral, rat): 1000 mg/kg (anhydrous substance)

- EC-Index-No.: 017-013-00-2
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2827 20 00 00

- Applications: analytical chemistry, for pharmaceutical use, in food industry, laboratory reagent, in pharma industry.

## CA0199 Calcium chloride dihydrate, sheets, EssentQ®



assay (as CaCl <sub>2</sub> , complexometric) . . . . .	min. 77 %	arsenic (As) . . . . .	max. 3 ppm
insoluble in water . . . . .	max. 0,2 %	heavy metals (as Pb) . . . . .	max. 0,002 %
pH (10 %, H <sub>2</sub> O) . . . . .	9,0 - 10,5	lead (Pb) . . . . .	max. 0,001 %
alkalinity (as Ca(OH) <sub>2</sub> ) . . . . .	max. 0,15 %	magnesium and alkaline salts . . . . .	max. 4 %
fluorides (F) . . . . .	max. 0,004 %		

ART. NO.	VOLUME	CONTAINER
CA01991000	1 kg	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## CA0193 Calcium chloride dihydrate, powder, extra pure, Phampur®, Ph Eur, BP, USP



assay (complexometric) . . . . . 99,0 -103,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,5 - 9,2  
 acidity or alkalinity . . . . . passes test  
 sulfates (SO<sub>4</sub>) . . . . . max. 300 ppm  
 aluminium (Al) . . . . . passes test  
 barium (Ba) . . . . . passes test

iron (Fe) . . . . . max. 10 ppm  
 iron, aluminium and phosphates passes test  
 magnesium and alkali metals . . . . . max. 0,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CA01930500	500 g	Ⓟ
CA01931000	1 kg	Ⓟ
CA0193005P	5 kg	Ⓟ
CA0193025P	25 kg	Ⓟ

## CA0194 Calcium chloride dihydrate, powder, ExpertQ®, for analysis, ACS



assay (complexometric) . . . . . 99 - 105 %  
 identity . . . . . passes test  
 appearance of solution . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,5 - 8,5  
 acidity or alkalinity . . . . . passes test  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,003 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,005 %  
 aluminium (Al) . . . . . max. 1 ppm  
 barium (Ba) . . . . . max. 0,003 %  
 copper (Cu) . . . . . max. 5 ppm

heavy metals . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 3 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,005 %  
 magnesium and alkali metals . . . . . max. 0,5 %  
 manganese (Mn) . . . . . max. 5 ppm  
 nickel (Ni) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,01 %  
 strontium (Sr) . . . . . max. 0,05 %  
 zinc (Zn) . . . . . max. 0,001 %  
 oxidizing substances (as NO<sub>3</sub>) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
CA01940500	500 g	Ⓟ
CA01941000	1 kg	Ⓟ
CA0194005P	5 kg	Ⓟ

## CA0198 Calcium chloride dihydrate, molecular biology grade



assay (complexometric) . . . . . min. 99,5 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 6 - 8  
 heavy metals (as Pb) . . . . . max. 0,0005 %  
 DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
CA01980250	250 g	Ⓟ
CA01981000	1 kg	Ⓟ

ART. NO.	VOLUME	CONTAINER
CA0198025P	25 kg	Ⓟ

## CALCIUM CHLORIDE, VOLUMETRIC SOLUTIONS

### CA0195 Calcium chloride, solution 1 mol/l



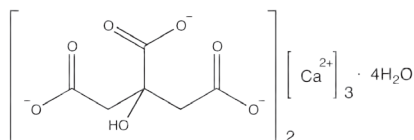
- CaCl<sub>2</sub>
- M = 110,99 g/mol
- CAS [10043-52-4]
- EINECS-No.: 233-140-8
- Density: 1,08 g/cm<sup>3</sup>
- LD 50 (oral, rat): 1000 mg/kg (pure substance)
- EC-Index-No.: 017-013-00-2
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2827 20 00 00
- Applications: analytical chemistry, in food industry, in antifreeze compositions.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,11099 g CaCl<sub>2</sub>  
 This volumetric solution was checked by means of potentiometric methods using an EDTA disodium salt standard solution, that was also checked against Scharlau's calcium carbonate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
CA01951000	1 l	Ⓟ

## TRI-CALCIUM DICITRATE TETRAHYDRATE, POWDER

### CA0203 tri-Calcium dicitrate tetrahydrate, powder, extra pure, Phampur®, USP



- Synonyms: Calcium citrate, 2-Hydroxy-1,2,3-propanetricarboxylic acid calcium salt (2:3)
- C<sub>12</sub>H<sub>10</sub>Ca<sub>3</sub>O<sub>14</sub>·4H<sub>2</sub>O
- M = 570,51 g/mol
- CAS [5785-44-4]
- EINECS-No.: 212-391-7
- Solub. in water: (20 °C): ~ 1 g/l
- Tariff number: 2918 15 00 90
- Applications: pharmaceutical and food industries, in pharma industry.

assay (complexometric, on dried sample) . . . . . 97,5 - 100,5 %  
 identification . . . . . passes test  
 acid-insoluble matter . . . . . max. 0,2 %  
 fluorides (F) . . . . . max. 0,003 %  
 arsenic (As) . . . . . max. 3 ppm  
 lead (Pb) . . . . . max. 10 ppm  
 loss on drying (150°C, 4 h) . . . . . 10,0 - 13,3 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CA02031000	1 kg	Ⓟ
CA0203025P	25 kg	Ⓟ

**CALCIUM BIS-(DIHYDROGEN PHOSPHATE) MONOHYDRATE**

CA0211 Calcium bis-(dihydrogen phosphate) monohydrate, EssentQ®

- Synonyms: Calcium biphosphate
- $\text{Ca}(\text{H}_2\text{PO}_4)_2 \cdot \text{H}_2\text{O}$
- M = 252,07 g/mol
- CAS [10031-30-8]
- EINECS-No.: 231-837-1
- Solub. in water: (20 °C): insoluble
- Melting point: 109 °C
- Tariff number: 2835 26 10 00
- Applications: analytical chemistry, in fertilizer compositions, in food industry, in the production of enamels.

assay (complexometric) . . . . . min. 98 %  
chlorides (Cl) . . . . . max. 0,005 %  
arsenic (As) . . . . . max. 2 ppm  
copper (Cu) . . . . . max. 0,003 %  
iron (Fe) . . . . . max. 0,01 %  
heavy metals (as Pb) . . . . . max. 0,003 %  
lead (Pb) . . . . . max. 0,003 %  
nickel (Ni) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
CA02110500	500 g	Ⓟ
CA02111000	1 kg	Ⓟ
CA0211005P	5 kg	Ⓟ

**CALCIUM HYDROGEN PHOSPHATE DIHYDRATE**

CA0210 Calcium hydrogen phosphate dihydrate, extra pure, Phampur®, Ph Eur, BP, USP

- Synonyms: Calcium phosphate dibasic
- $\text{CaHPO}_4 \cdot 2\text{H}_2\text{O}$
- M = 172,10 g/mol
- CAS [7789-77-7]
- EINECS-No.: 231-826-1
- Solub. in water: (25 °C): 0,2 g/l
- Tariff number: 2835 25 10 00
- Applications: analytical chemistry, in food industry, manufacture of glass, for dentistry, in pharma industry.

assay (complexometric) . . . . . 98,0 - 105,0 %  
identification . . . . . passes test  
acid-insoluble matter . . . . . max. 0,2 %  
carbonates (as  $\text{CO}_2$ ) . . . . . passes test  
chlorides (Cl) . . . . . max. 0,25 %  
fluorides (F) . . . . . max. 50 ppm  
sulfates ( $\text{SO}_4$ ) . . . . . max. 0,5 %  
arsenic (As) . . . . . max. 3 ppm  
barium (Ba) . . . . . passes test  
iron (Fe) . . . . . max. 400 ppm  
residue on ignition (800°C) . . . . . 24,5 - 26,5 %  
Elemental impurities are analysed according to guideli-

ne CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CA02100500	500 g	Ⓟ
CA02101000	1 kg	Ⓟ
CA0210025P	25 kg	Ⓟ

**CALCIUM HYDROXIDE**

- $\text{Ca}(\text{OH})_2$
- M = 74,09 g/mol
- CAS [1305-62-0]
- EINECS-No.: 215-137-3

- GHS-signal word: Danger
- GHS-H sentences: H318
- GHS-P sentences: P280 - P305 + P351 + P338 - P310

- Tariff number: 2825 90 19 00
- Applications: in building materials, in lubricant compositions, painting, laboratory reagent.

CA0215 Calcium hydroxide, 90%, EssentQ®

assay (acidimetric) . . . . . approx. 90 %

ART. NO.	VOLUME	CONTAINER
CA02150250	250 g	Ⓟ
CA02150500	500 g	Ⓟ

ART. NO.	VOLUME	CONTAINER
CA02151000	1 kg	Ⓟ

CA0216 Calcium hydroxide, powder, extra pure, Phampur®, Ph Eur, BP, USP

assay (acidimetric) . . . . . 95,0 - 100,5 %  
identification . . . . . passes test  
insoluble in HCl . . . . . max. 0,5 %  
carbonates (as  $\text{CaCO}_3$ ) . . . . . max. 5,0 %  
carbonates . . . . . passes test  
chlorides (Cl) . . . . . max. 330 ppm  
sulfates ( $\text{SO}_4$ ) . . . . . max. 0,4 %

arsenic (As) . . . . . max. 4 ppm  
magnesium and alkali metals . . . . . max. 4,8 %  
magnesium and alkali metals (as  $\text{SO}_4$ ) . . . . . max. 4,0 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

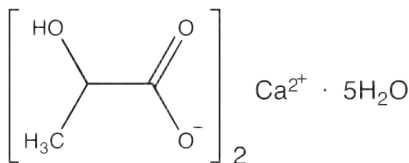
ART. NO.	VOLUME	CONTAINER
CA02160500	500 g	Ⓟ
CA02161000	1 kg	Ⓟ
CA0216005P	5 kg	Ⓟ
CA0216025P	25 kg	Ⓟ

**Scharlau HPLC vials**



## CALCIUM LACTATE PENTAHYDRATE

CA0225 Calcium lactate pentahydrate, extra pure, Pharpur®, Ph Eur, BP, USP



- Synonyms: Lactic acid calcium salt pentahydrate
- $C_6H_{10}CaO_7 \cdot 5H_2O$
- $M = 308,30 \text{ g/mol}$
- CAS [28305-25-1]
- EINECS-No.: 248-953-3
- Solub. in water: (20 °C): 66 g/l
- Melting point: 240 °C
- Tariff number: 2918 11 00 00
- Applications: in food industry (preservative agent), dentifrices, in pharma industry.

assay (complexometric, referred to dried sample) . . . . . 98,0 - 101,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 acidity or alkalinity . . . . . passes test  
 free acid (as lactic acid) . . . . . max. 0,45 %  
 chlorides (Cl) . . . . . max. 200 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 400 ppm  
 barium (Ba) . . . . . passes test  
 iron (Fe) . . . . . max. 50 ppm  
 magnesium and alkaline salts . . . . . max. 1,0 %  
 volatile fatty acids . . . . . passes test  
 loss on drying (125°C) . . . . . 22,0 - 27,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CA02250500	500 g	P
CA02251000	1 kg	P

## CALCIUM NITRATE TETRAHYDRATE

CA0230 Calcium nitrate tetrahydrate, EssentQ®

- Synonyms: Nitric acid calcium salt tetrahydrate
- $Ca(NO_3)_2 \cdot 4H_2O$
- $M = 236,15 \text{ g/mol}$
- CAS [13477-34-4]
- EINECS-No.: 233-332-1
- Solub. in water: (20 °C): soluble
- Melting point: 42 °C

- LD 50 (oral, rat): 3900 mg/kg
- ADR: 5.1 O2 III UN 1454
- IMDG: 5.1 III UN 1454
- IATA/ICAO: 5.1 III UN 1454
- GHS-signal word: Warning
- GHS-H sentences: H272

- GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a
- Tariff number: 2834 29 80 00
- Applications: analytical chemistry, in pyrotechnics, in the electronic industry, in fertilizer compositions.
- Appearance: White crystals

assay (complexometric) . . . . . min. 98 %  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4 - 7  
 acidity (as HNO<sub>3</sub>) . . . . . max. 0,05 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,02 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,002 %  
 nickel (Ni) . . . . . max. 0,002 %  
 non precipitable by ammonium  
 oxalate (as SO<sub>4</sub>) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
CA02300500	500 g	P
CA02301000	1 kg	P
CA0230005P	5 kg	P
CA0230025P	25 kg	P

CA0231 Calcium nitrate tetrahydrate, ExpertQ®, for analysis, ACS

assay (complexometric) . . . . . 99 - 103 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 5 - 7  
 chlorides (Cl) . . . . . max. 0,005 %  
 nitrites (NO<sub>2</sub>) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,005 %  
 barium (Ba) . . . . . max. 0,005 %

copper (Cu) . . . . . max. 0,0002 %  
 heavy metals (as Pb) . . . . . max. 0,0005 %  
 iron (Fe) . . . . . max. 0,0005 %  
 lead (Pb) . . . . . max. 0,0005 %  
 magnesium (Mg) . . . . . max. 0,01 %  
 potassium (K) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,01 %  
 strontium (Sr) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
CA02310500	500 g	P
CA02311000	1 kg	P
CA0231005P	5 kg	P
CA0231025P	25 kg	P

## CALCIUM OXIDE

CA0260 Calcium oxide, natural, blocks

- Synonyms: Lime, caustic; Quicklime
- CaO
- $M = 56,08 \text{ g/mol}$
- CAS [1305-78-8]
- EINECS-No.: 215-138-9
- Solub. in water: (20 °C): 1,65 g/l (exothermic reaction)
- Melting point: 2580 °C
- Boiling point: 2850 °C
- IATA/ICAO: 8 III UN 1910
- GHS-signal word: Danger
- GHS-H sentences: H318
- GHS-P sentences: P280 - P305 + P351 + P338 - P310
- Tariff number: 2825 90 19 00

- Applications: analytical chemistry, for pharmaceutical use, absorbent for: water and carbon dioxide, laboratory reagent.

assay (complexometric) . . . . . min. 90 %  
 chlorides (Cl) . . . . . max. 0,05 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,1 %  
 copper (Cu) . . . . . max. 0,01 %  
 iron (Fe) . . . . . max. 0,1 %  
 nickel (Ni) . . . . . max. 0,01 %  
 lead (Pb) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
CA02600500	500 g	P
CA02601000	1 kg	P
CA0260005P	5 kg	P
CA0260025P	25 kg	P

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z



## TRI-CALCIUM PHOSPHATE

CA0205 tri-Calcium phosphate anhydrous, extra pure, Phampur®, Ph Eur, BP

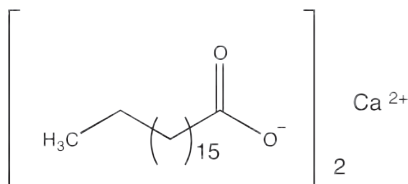
- Synonyms: Calcium phosphate tribasic, Tricalcium orthophosphate
- $\text{Ca}_3(\text{PO}_4)_2$
- $M = 310,18 \text{ g/mol}$
- CAS [7758-87-4]
- EINECS-No.: 231-840-8
- Solub. in water: (20 °C): insoluble
- Melting point: ~ 1730 °C
- Tariff number: 2835 26 10 00
- Applications: in food industry (E-341), emulsifier, in the pharmaceuticals industry, in pharma industry.

assay (complexometric, as Ca) ..... 35,0 - 40,0 %  
 identification ..... passes test  
 acid-insoluble matter ..... max. 0,2 %  
 chlorides (Cl) ..... max. 0,15 %  
 fluorides (F) ..... max. 75 ppm  
 sulfates ( $\text{SO}_4$ ) ..... max. 0,5 %  
 arsenic (As) ..... max. 4 ppm  
 iron (Fe) ..... max. 400 ppm  
 residue on ignition (800 °C) ..... max. 8,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CA02050500	500 g	P
CA02051000	1 kg	P
CA0205005P	5 kg	P
CA0205025P	25 kg	P

## CALCIUM STEARATE

CA0200 Calcium stearate, EssentQ®



- Synonyms: Stearic acid calcium salt
- $\text{C}_{36}\text{H}_{70}\text{CaO}_4$
- $M = 607,04 \text{ g/mol}$
- CAS [1592-23-0]
- EINECS-No.: 216-472-8
- Solub. in water: (20 °C): 2,2 mg/l
- Melting point: 147 - 149 °C
- Ignition temp.: 460 °C
- LD 50 (oral, rat): > 10000 mg/kg
- Tariff number: 2915 70 30 00
- Applications: in building materials, in explosive compositions, plasticizer, in lubricant compositions, in food industry, for pharmaceutical use.

assay (complexometric, as Ca) ..... 6,4 - 7,4 %  
 assay (complexometric, as CaO) ..... 9,0 - 10,5 %  
 identification ..... passes test  
 stearic acid in the fatty acid fraction ..... min. 40 %  
 sum of stearic acid and palmitic acid in the fatty acid fraction ..... min. 90 %  
 acidity or alkalinity ..... passes test  
 chlorides (Cl) ..... max. 0,1 %  
 sulfates ( $\text{SO}_4$ ) ..... max. 0,3 %  
 arsenic (As) ..... max. 3 ppm  
 cadmium (Cd) ..... max. 3 ppm  
 heavy metals (as Pb) ..... max. 0,001 %  
 lead (Pb) ..... max. 0,001 %  
 mercury (Hg) ..... max. 1 ppm  
 nickel (Ni) ..... max. 5 ppm  
 zinc (Zn) ..... max. 0,002 %  
 loss on drying (105°C) ..... max. 4 %

ART. NO.	VOLUME	CONTAINER
CA02000500	500 g	P
CA02001000	1 kg	P
CA0200005P	5 kg	P
CA0200020P	20 kg	P

## CALCIUM SULFATE DIHYDRATE

- Synonyms: Sulfuric acid calcium salt dihydrate
- $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
- $M = 172,17 \text{ g/mol}$
- CAS [10101-41-4]

- EINECS-No.: 231-900-3
- Solub. in water: (20 °C): ~ 2 g/l
- Tariff number: 2833 29 90 00

- Applications: analytical chemistry, laboratory reagent, in building materials, synthesis of organic products, for pharmaceutical use.

CA0284 Calcium sulfate dihydrate, extra pure, Phampur®, Ph Eur, BP, NF

assay (complexometric) ..... 98,0 - 102,0 %  
 assay (complexometric, referred to dried sample) ..... 98,0 - 101,0 %  
 identification ..... passes test  
 acidity or alkalinity ..... passes test  
 chlorides (Cl) ..... max. 300 ppm  
 arsenic (As) ..... max. 10 ppm

iron (Fe) ..... max. 100 ppm  
 loss on ignition (800 °C) ..... 18,0 - 22,0 %  
 loss on drying (250 °C) ..... 19,0 - 23,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CA02840500	500 g	P
CA02841000	1 kg	P
CA0284005P	5 kg	P

CA0285 Calcium sulfate dihydrate, ExpertQ®, for analysis, ACS

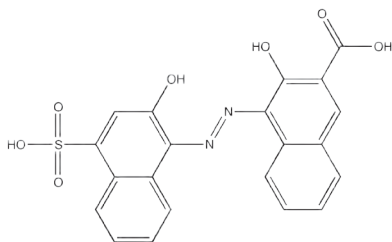
assay (complexometric) ..... 98,0 - 102,0 %  
 identity (IR-spectrum) ..... passes test  
 insoluble in diluted HCl ..... max. 0,02 %  
 appearance of solution (2,5 % in HCl 10 %) ..... passes test  
 carbonates ( $\text{CO}_3$ ) ..... passes test  
 chlorides (Cl) ..... max. 0,005 %  
 nitrates ( $\text{NO}_3$ ) ..... passes test

heavy metals ..... max. 0,002 %  
 iron (Fe) ..... max. 0,001 %  
 magnesium (Mg) ..... max. 0,01 %  
 potassium (K) ..... max. 0,005 %  
 sodium (Na) ..... max. 0,02 %  
 strontium (Sr) ..... max. 0,05 %

ART. NO.	VOLUME	CONTAINER
CA02850250	250 g	P
CA02850500	500 g	P
CA02851000	1 kg	P
CA0285005P	5 kg	P
CA0285025P	25 kg	P

## CALCONCARBOXYLIC ACID

AC0635 Calconcarboxylic acid, indicator for metal titration



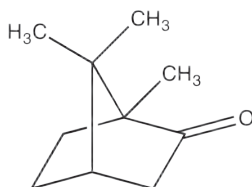
- Synonyms: 2-Hydroxy-1-(2-hydroxy-4-sulpho-1-naphthylazo)-3-naphthoic acid
- $C_{21}H_{14}N_2O_7S$
- $M = 438,42 \text{ g/mol}$
- CAS [3737-95-9]
- EINECS-No.: 223-117-0
- Solub. in water: (20 °C): insoluble
- Melting point: 300 °C
- Tariff number: 2927 00 00 90
- Applications: analytical chemistry, indicator, for the identification of: calcium.

Absorption maximum  $\lambda$  (in ethanol) . . . . . 569 - 572 nm  
 Absorptivity (A1%/1 cm;  $\lambda$ ; pH 3,0  
 on dried sample) . . . . . 250 - 400  
 water (K.F.) . . . . . max. 9 %  
 suitability as indicator for metal  
 titration . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AC06350005	5 g	0
AC06350025	25 g	0

## DL-CAMPHOR

AL0070 DL-Camphor, synthetic, EssentQ®



- Synonyms: 1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one
- $C_{10}H_{16}O$
- $M = 152,24 \text{ g/mol}$
- CAS [76-22-2]
- EINECS-No.: 200-945-0
- Solub. in water: (25 °C): 1,25 g/l
- Melting point: 172 - 176 °C
- Flash pt. 64 °C
- Ignition temp.: 466 °C
- ADR: 4.1 F1 III UN 2717
- IMDG: 4.1 III UN 2717
- IATA/ICAO: 4.1 III UN 2717
- GHS-signal word: Danger
- GHS-H sentences: H301 - H228
- GHS-P sentences: P210 - P241 - P280 - P321 - P405 - P501a
- Tariff number: 2914 21 00 00
- Applications: plasticizer, in explosive compositions, in pyrotechnics, manufacturing of lacquers, cosmetics, for pharmaceutical use.
- Appearance: White powder

identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 specific rotation ( $[\alpha]_{20}^D$ ,  $c = 2$ ,  
 ethanol) . . . . . - 0,15 ° - + 0,15 °  
 insoluble in  $C_2H_5OH$  . . . . . passes test  
 acidity or alkalinity . . . . . passes test  
 halogen compounds (as Cl) . . . . . max. 0,01 %  
 residue on evaporation . . . . . max. 0,05 %  
 water . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AL00701000	1 kg	0

## CANADA BALSAM

BA0030 Canada balsam, for microscopy

- Synonyms: Balsam Canada
- CAS [8007-47-4]
- EINECS-No.: 232-362-2
- Solub. in water: (20 °C): insoluble
- Flash pt. 39 °C
- LD 50 (oral, rat): > 5000 g/kg
- ADR: 3 F1 III UN 1993
- IMDG: 3 III UN 1993
- IATA/ICAO: 3 III UN 1993

- GHS-signal word: Warning
- GHS-H sentences: H226
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 1301 90 90 00
- Applications: microscopy.

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
BA00300025	25 ml	0
BA00300100	100 ml	0
BA00300250	250 ml	0

## CARBON DISULFIDE



- Synonyms: Carbon bisulfide, Dithiocarbonic anhydride
- $CS_2$
- $M = 76,14 \text{ g/mol}$
- CAS [75-15-0]
- EINECS-No.: 200-843-6
- Density: 1,26 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 2,1 g/l
- Melting point: -111,6 °C
- Boiling point: 46,5 °C
- Flash pt. -30 °C
- Ignition temp.: 100 °C
- Vapour pressure: (20 °C) 398 hPa

- Dielectric const.: (20 °C) 2,6
- LD 50 (oral, rat): 3188 mg/kg
- EC-Index-No.: 006-003-00-3
- ADR: 3 FT1 I UN 1131
- IMDG: 3 I UN 1131
- IATA/ICAO: Forbidden UN 1131
- GHS-signal word: Danger
- GHS-H sentences: H225 - H372 - H361fd - H315 - H319
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2813 10 00 00
- Applications: synthesis of organic products, solvents.

## SU0170 Carbon disulfide, EssentQ®



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,262 - 1,264  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %  
 sulfites (as SO<sub>2</sub>) . . . . . max. 0,003 %  
 copper (Cu) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,5 ppm

lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 benzene (G.C.) . . . . . max. 0,005 %  
 toluene (G.C.) . . . . . max. 0,005 %  
 residue on evaporation . . . . . max. 0,002 %  
 water (K.F.) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
SU01701000	1 l	0
SU0170025A	25 l	1

## SU0171 Carbon disulfide, ExpertQ®, for analysis, ACS, Reag. Ph Eur



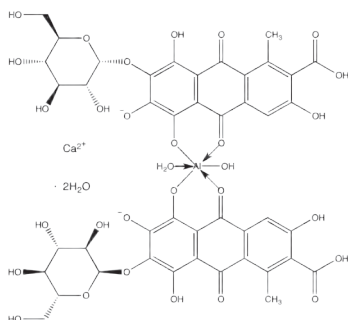
assay (G.C.) . . . . . min. 99,9%  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . approx. 1,26  
 appearance . . . . . clear and colourless  
 boiling point . . . . . 46 - 47°C  
 colour (Hazen) . . . . . max. 10  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm

lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 sulfur dioxide (SO<sub>2</sub>) . . . . . max. 0,00025 %  
 hydrogen sulfide (as H<sub>2</sub>S) . . . . . max. 0,00015 %  
 benzene (G.C.) . . . . . max. 0,005 %  
 toluene (G.C.) . . . . . max. 0,0005 %  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
SU01711000	1 l	0

## CARMINE, C.I. 75470

### CA0380 Carmine, C.I. 75470, for microscopy



- Synonyms: Alum lacquer of carminic acid
- C<sub>24</sub>H<sub>27</sub>AlCaO<sub>29</sub>·3H<sub>2</sub>O
- M = 492,38 g/mol
- CAS [1390-65-4]
- EINECS-No.: 215-724-4
- Solub. in water: (20 °C): insoluble
- Tariff number: 3203 00 90 00
- Applications: microscopy, for biology, photography, manufacturing of inks, in food industry, cosmetics.

Absorption maximum λ<sub>1</sub> (in DMSO) . . . . . 563 - 571 nm  
 Absorption maximum λ<sub>2</sub> (in DMSO) . . . . . 525 - 533 nm  
 Absorptivity (A1%/1 cm; λ<sub>1</sub> max) . . . . . 70 - 110  
 Absorptivity (A1%/1 cm; λ<sub>2</sub> max) . . . . . 100 - 150  
 loss on drying (110 °C) . . . . . max. 15 %  
 residue on ignition . . . . . 9 - 17 %

ART. NO.	VOLUME	CONTAINER
CA0380025	25 g	0

## CARREZ'S REAGENT I

### RE0016 Carrez's Reagent I

- Density: 1,11 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

composition of 1 liter:  
 zinc acetate dihydrate . . . . . 267 g  
 acetic acid (CH<sub>3</sub>COOH) . . . . . 32 ml  
 water to make 1 liter

ART. NO.	VOLUME	CONTAINER
RE00161000	1 l	0
RE0016005P	5 l	1

## CARREZ'S REAGENT II

### RE0017 Carrez's Reagent II

- Density: 1,07 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

composition of 1 liter:  
 Potassium hexacyanoferrate(II)  
 trihydrate . . . . . 136 g  
 water to make 1 liter

ART. NO.	VOLUME	CONTAINER
RE00171000	1 l	0
RE0017005P	5 l	1

## CEDAR WOOD OIL

AC0020 Cedar wood oil, thickened

- CAS [8000-27-9]
- Density: 0,99 g/cm<sup>3</sup>
- Flash pt. 110 °C
- Refraction index: (n 20°C/D) 1,518
- LD 50 (oral, rat): > 5000 mg/kg
- Tariff number: 3301 29 61 00
- Applications: microscopy, for biology.

insoluble in C<sub>2</sub>H<sub>5</sub>OC<sub>2</sub>H<sub>5</sub> ..... passes test  
 insoluble in C<sub>2</sub>H<sub>5</sub>OH ..... passes test

ART. NO.	VOLUME	CONTAINER
AC00200025	25 g	0

## CERIUM(III) NITRATE HEXAHYDRATE

CE0080 Cerium(III) nitrate hexahydrate, EssentQ®, Reag. Ph Eur



- Ce(NO<sub>3</sub>)<sub>3</sub>·6H<sub>2</sub>O
- M = 434,23 g/mol
- CAS [10294-41-4]
- EINECS-No.: 233-297-2
- Solub. in water: (20 °C): soluble
- LD 50 (oral, rat): 4200 mg/kg
- ADR: 5.1 O2 II UN 1477
- IMDG: 5.1 II UN 1477
- IATA/ICAO: 5.1 II UN 1477
- GHS-signal word: Danger
- GHS-H sentences: H272
- GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a
- Tariff number: 2846 10 00 90
- Applications: analytical chemistry, laboratory reagent, inorganic salts.
- Appearance: Colourless to white crystalline powder

assay (complexometric) ..... min. 98,5 %  
 chlorides (Cl) ..... max. 0,003 %  
 heavy metals (as Pb) ..... max. 0,002 %  
 iron (Fe) ..... max. 0,001 %

ART. NO.	VOLUME	CONTAINER
CE00800100	100 g	0

## CERIUM(IV) OXIDE

CE0090 Cerium(IV) oxide, EssentQ®

- CeO<sub>2</sub>
- M = 172,12 g/mol
- CAS [1306-38-3]
- EINECS-No.: 215-150-4
- Solub. in water: (20 °C): insoluble
- Melting point: ~ 2000 °C
- LD 50 (oral, rat): > 5000 mg/kg
- Tariff number: 2846 10 00 90
- Applications: oxidizing agent, in optics, inorganic salts.

assay (on ignited sample) ..... min. 99 %  
 residue on ignition ..... max. 1 %

ART. NO.	VOLUME	CONTAINER
CE00900100	100 g	0

## CERIUM(IV) SULFATE, VOLUMETRIC SOLUTIONS

CE0102 Cerium(IV) sulfate, solution 0,1 mol/l (0,1 N)

- Ce(SO<sub>4</sub>)<sub>2</sub>·4H<sub>2</sub>O
- M = 404,30 g/mol
- CAS [10294-42-5]
- EINECS-No.: 237-029-5
- Density: 1,08 g/cm<sup>3</sup>
- Tariff number: 2846 10 00 90
- Applications: analytical chemistry, titrant in volumetric analysis.
- factor ..... 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,04043 g Ce(SO<sub>4</sub>)<sub>2</sub>·4H<sub>2</sub>O  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's sodium oxalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
CE01021000	1 l	0

CE0101 Cerium(IV) sulfate, solution 0,05 mol/l (0,05 N)

- Ce(SO<sub>4</sub>)<sub>2</sub>·4H<sub>2</sub>O
- M = 404,30 g/mol
- CAS [10294-42-5]
- EINECS-No.: 237-029-5
- Density: 1,04 g/cm<sup>3</sup>
- Tariff number: 2846 10 00 90
- Applications: analytical chemistry, titrant in volumetric analysis.
- factor ..... 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,020215 g Ce(SO<sub>4</sub>)<sub>2</sub>·4H<sub>2</sub>O  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's sodium oxalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
CE01011000	1 l	0

## CESIUM CHLORIDE

- CsCl
- M = 168,36 g/mol
- CAS [7647-17-8]
- EINECS-No.: 231-600-2

- Solub. in water: (20 °C): soluble
- Melting point: 646 °C
- Boiling point: 1382 °C
- LD 50 (oral, rat): 2600 mg/kg

- Tariff number: 2827 39 80 90
- Applications: analytical chemistry, laboratory reagent, for the synthesis of: cesium, in radiology applications.

### CE0110 Cesium chloride, ExpertQ®, for analysis

assay (argentometric) . . . . . min. 99,5 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
total nitrogen (as N) . . . . . max. 0,001 %  
aluminium (Al) . . . . . max. 5 ppm  
copper (Cu) . . . . . max. 3 ppm  
iron (Fe) . . . . . max. 3 ppm  
lead (Pb) . . . . . max. 1 ppm

lithium (Li) . . . . . max. 0,5 ppm  
magnesium (Mg) . . . . . max. 5 ppm  
potassium (K) . . . . . max. 0,002 %  
rubidium (Rb) . . . . . max. 0,008 %  
sodium (Na) . . . . . max. 0,002 %  
zinc (Zn) . . . . . max. 3 ppm

ART. NO.	VOLUME	CONTAINER
CE01100100	100 g	

### CE0121 Cesium chloride, molecular biology grade

assay (argentometric) . . . . . min. 99,5 %  
absorbance of an aqueous solution  
3 M in a 1 cm cell at 260 nm . . . . . max. 0,1 AU

absorbance of an aqueous solution  
3 M in a 1 cm cell at 280 nm . . . . . max. 0,02 AU  
lead (Pb) . . . . . max. 1 ppm  
DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
CE01210100	100 g	
CE01210500	500 g	

## CETYL ALCOHOL

### AL0190 Cetyl alcohol, EssentQ®



- Synonyms: 1-Hexadecanol
- C<sub>16</sub>H<sub>34</sub>O
- M = 242,45 g/mol
- CAS [36653-82-4]
- EINECS-No.: 253-149-0
- Solub. in water: (20 °C): insoluble
- Melting point: ~ 49 - 53 °C
- Boiling point: ~ 355 °C
- Flash pt. 135 °C
- Ignition temp.: ~ 235 °C
- Vapour pressure: (20 °C) 5000 mg/kg
- Tariff number: 2905 17 00 00
- Applications: synthesis of organic products, for pharmaceutical use, cosmetics, emulsifier, in pharma industry.

assay (G.C.) . . . . . min. 96 %  
identity (IR-spectrum) . . . . . passes test  
melting point . . . . . 46 - 52°C  
appearance of solution (2,5 % ethanol 96%) . . . . . passes test  
acid value . . . . . max. 1  
hydroxyl value . . . . . 218 - 238  
iodine value . . . . . max. 2  
saponification index . . . . . max. 2

ART. NO.	VOLUME	CONTAINER
AL01901000	1 kg	
AL0190025P	25 kg	

## CHARCOAL ACTIVATED

- C
- M = 12,01 g/mol
- CAS [7440-44-0]
- EINECS-No.: 231-153-3
- Solub. in water: (20 °C): insoluble

- ADR: 4.2 S2 III UN 1362
- IMDG: 4.2 III UN 1362
- IATA/ICAO: 4.2 III UN 1362
- GHS-signal word: Warning
- GHS-H sentences: H252 - H315

- GHS-P sentences: P235 + P410 - P264 - P280 - P332 + P313 - P407 - P420
- Tariff number: 3802 10 00 20
- Applications: analytical chemistry, for decolorization of liquids, antidote, in explosive compositions.

### CA0346 Charcoal activated, granulated



acid - extractable matter . . . . . 0,8 %  
acidity . . . . . passes test  
iodine adsorption . . . . . 1050 mg / g  
methylene blue adsorption . . . . . min. 21 g / 100 g  
calcium (Ca) . . . . . max. 0,02 %

iron (Fe) . . . . . max. 0,02 %  
residue on ignition . . . . . max. 3 %  
loss on drying . . . . . max. 2 %

ART. NO.	VOLUME	CONTAINER
CA03460500	500 g	
CA03461000	1 kg	
CA0346005P	5 kg	

### CA0351 Charcoal activated, powder, EssentQ®



solubility in HCl . . . . . max. 3 %  
solubility in water . . . . . max. 0,5 %  
acidity . . . . . passes test  
chlorides (Cl) . . . . . max. 0,02 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,05 %  
heavy metals (as Pb) . . . . . max. 0,005 %  
iron (Fe) . . . . . max. 0,05 %  
zinc (Zn) . . . . . max. 0,001 %

methylene blue  
adsorption (0,15 % solution) . . . . . min. 12 ml/0,1g  
residue on ignition (600 °C) . . . . . max. 2 %  
loss on drying . . . . . max. 10 %

ART. NO.	VOLUME	CONTAINER
CA03510100	100 g	
CA03510250	250 g	
CA03510500	500 g	
CA03511000	1 kg	
CA0351005P	5 kg	



## CHARCOAL ANIMAL

CA0350 Charcoal, animal, powder, EssentQ®



- C
- M = 12,01 g/mol
- CAS [8021-99-6]
- EINECS-No.: 232-421-2
- Solub. in water: (20 °C): insoluble
- ADR: 4.2 S2 III UN 1361
- IMDG: 4.2 III UN 1361
- IATA/ICAO: 4.2 III UN 1361
- GHS-signal word: Warning

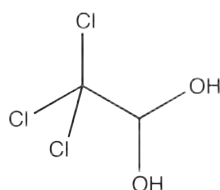
- GHS-H sentences: H252 - H315
- GHS-P sentences: P235 + P410 - P264 - P280 - P332 + P313 - P407 - P420
- Tariff number: 3802 10 00 20
- Applications: analytical chemistry, for decolourization of liquids, antidote, in explosive compositions.

acidity or alkalinity . . . . . passes test  
sulfides . . . . . passes test

ART. NO.	VOLUME	CONTAINER
CA0350005P	5 kg	
CA03500500	500 g	

## CHLORAL HYDRATE

CL0010 Chloral hydrate, EssentQ®



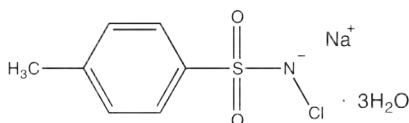
- Synonyms: Trichloroacetaldehyde hydrate
- $C_2H_3Cl_3O_2$
- M = 165,40 g/mol
- CAS [302-17-0]
- EINECS-No.: 206-117-5
- Solub. in water: (20 °C): soluble
- Melting point: 51,7 °C
- Boiling point: 96,3 °C
- Vapour pressure: (20 °C) 13 hPa
- LD 50 (oral, rat): 479 mg/kg
- EC-Index-No.: 605-014-00-6
- ADR: 6.1 T2 II UN 2811
- IMDG: 6.1 II UN 2811
- IATA/ICAO: 6.1 II UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H301 - H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P405 - P501a
- Tariff number: 2905 59 99 00
- Applications: analytical chemistry, synthesis of organic products, laboratory reagent.
- Appearance: White crystalline powder

assay (acidimetric) . . . . . 98,5 - 101 %  
identification . . . . . passes test  
acidity . . . . . passes test  
appearance of solution (10 %,  $H_2O$ ) . . . . . clear and colourless  
pH (10 %,  $H_2O$ ) . . . . . 3,5 - 5,5  
chlorides (Cl) . . . . . max. 0,01 %  
heavy metals (as Pb) . . . . . max. 0,002 %  
toluene . . . . . max. 0,089 %  
chloral alcoholate . . . . . passes test  
substances darkened by  $H_2SO_4$  . . . . . passes test  
residue on ignition . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
CL00100500	500 g	
CL00101000	1 kg	

## CHLORAMINE T TRIHYDRATE

CL0020 Chloramine T trihydrate, ExpertQ®, for analysis, ACS



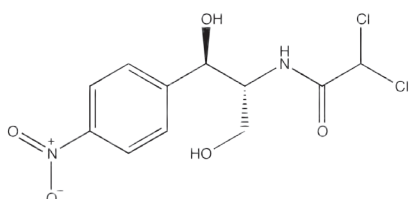
- Synonyms: N-Chloro-4-methylbenzenesulfonamide sodium salt, N-Chloro-p-toluenesulfonamide sodium salt, Tosylchloramide sodium, N-Chloro-4-toluenesulfonamide sodium salt
- $C_7H_7ClNNaO_2S \cdot 3H_2O$
- M = 281,69 g/mol
- CAS [7080-50-4]
- EINECS-No.: 204-854-7
- Solub. in water: (25 °C): 150 g/l
- Melting point: > 70 °C (decomposes)
- Flash pt. 192 °C
- LD 50 (oral, rat): ~ 1000 mg/kg
- EC-Index-No.: 616-010-00-9
- ADR: 8 C8 III UN 3263
- IMDG: 8 III UN 3263
- IATA/ICAO: 8 III UN 3263
- GHS-signal word: Danger
- GHS-H sentences: H334 - H314 - H302 - EUH031
- GHS-P sentences: P260 - P285 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2935 00 90 90
- Applications: analytical chemistry, synthesis of organic products, for the detection of: halogens and bromates.
- Appearance: White to off-white crystalline powder

assay (iodometric) . . . . . 99,0 - 103,0 %  
identity (IR-spectrum) . . . . . passes test  
appearance of solution . . . . . passes test  
insoluble in  $C_2H_5OH$  . . . . . max. 1,5 %  
pH (5 %,  $H_2O$ ) . . . . . 8,0 - 10,0  
suitability for determination  
of bromide (Br) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
CL00200100	100 g	
CL00200250	250 g	
CL00201000	1 kg	

## CHLORAMPHENICOL

CL0025 Chloramphenicol, for biochemical purposes

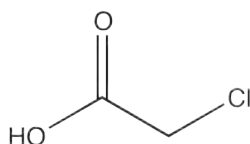


- Synonyms: Chloromycetin
- $C_{12}H_{12}Cl_2N_2O_5$
- $M = 323,13 \text{ g/mol}$
- CAS [56-75-7]
- EINECS-No.: 200-287-4
- Solub. in water: (25 °C): 2,5 g/l
- Melting point: 149 - 153 °C
- LD 50 (oral, rat): 2500 mg/kg
- GHS-signal word: Danger
- GHS-H sentences: H350
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2941 40 00 00
- Applications: in biochemistry, for pharmaceutical use, antibacterian.

assay (DSC) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
specific rotation ( $[\alpha]_{20}^D$ ,  $c = 5$ ,  
absolut ethanol) . . . . . +17 ° - +20 °  
acidity or alkalinity . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
loss on drying (105 °C) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
CL00250050	50 g	0
CL00250500	500 g	0

## CHLOROACETIC ACID



- Synonyms: Monochloroacetic acid
- $CH_2ClCOOH$
- $M = 94,50 \text{ g/mol}$
- CAS [79-11-8]
- EINECS-No.: 201-178-4
- Solub. in water: (20 °C): soluble
- Melting point: 60 - 63 °C
- Boiling point: 189 °C
- Flash pt. 126 °C
- Ignition temp.: 470 °C
- Vapour pressure: (20 °C) 1hPa
- LD 50 (oral, rat): 55 mg/kg

- EC-Index-No.: 607-003-00-1
- ADR: 6.1 TC2 II UN 1751
- IMDG: 6.1 II UN 1751
- IATA/ICAO: 6.1 II UN 1751
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H331 - H314 - H400
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2915 40 00 90
- Applications: analytical chemistry, manufacture of dyes, synthesis of organic products, for acetylations.

AC0747 Chloroacetic acid, EssentQ®



assay (acidimetric) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,01 %  
chlorides (Cl) . . . . . max. 0,01 %  
nitrates (NO<sub>3</sub>) . . . . . max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %

copper (Cu) . . . . . max. 0,001 %  
heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,001 %  
lead (Pb) . . . . . max. 0,001 %  
nickel (Ni) . . . . . max. 0,001 %  
residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AC07470500	500 g	0
AC07471000	1 kg	0

AC0750 Chloroacetic acid, ExpertQ®, for analysis, ACS

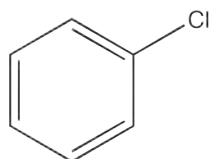


assay (acidimetric) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,003 %  
nitrogen compounds (as N) . . . . . max. 0,005 %  
chlorides (Cl) . . . . . max. 0,005 %  
nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
copper (Cu) . . . . . max. 5 ppm

heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 5 ppm  
lead (Pb) . . . . . max. 5 ppm  
nickel (Ni) . . . . . max. 5 ppm  
acetone (G.C.) . . . . . max. 0,02 %  
carbonyl compounds (as C<sub>2</sub>H<sub>4</sub>O) . . . . . max. 0,01 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on ignition . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
AC07500500	500 g	0

## CHLOROBENZENE



- Synonyms: Monochlorobenzene, Benzene chloride, Phenyl chloride
- $C_6H_5Cl$
- $M = 112,56 \text{ g/mol}$
- CAS [108-90-7]
- EINECS-No.: 203-628-5
- Density: 1,11 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 0,5 g/l
- Melting point: -45 °C
- Boiling point: 132 °C
- Flash pt. 28 °C
- Ignition temp.: 590 °C
- Vapour pressure: (20 °C) 12 hPa
- Refraction index: (n 20 °C/D) 1,5248

- Dielectric const.: (25 °C) 5,6
- LD 50 (oral, rat): 1100 mg/kg
- EC-Index-No.: 602-033-00-1
- ADR: 3 F1 III UN 1134
- IMDG: 3 III UN 1134
- IATA/ICAO: 3 III UN 1134
- GHS-signal word: Warning
- GHS-H sentences: H226 - H332 - H411
- GHS-P sentences: P210 - P241 - P261 - P280 - P303 + P361 + P353 - P501a
- Tariff number: 2903 91 00 00
- Applications: laboratory reagent, synthesis of organic products, solvents (painting).

## CL0110 Chlorobenzene, EssentQ®



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,105 - 1,107  
 acidity . . . . . max. 0,01 meq/g  
 copper (Cu) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm

benzene (G.C.) . . . . . max. 0,05 %  
 total dichlorobenzenes (G.C.) . . . . . max. 0,01 %  
 total chlorotoluenes (G.C.) . . . . . max. 0,05 %  
 sulphur compounds (as CS<sub>2</sub>) . . . . . max. 0,001 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
CL01101000	1 l	0
CL01102500	2,5 l	0
CL0110005P	5 l	0

## CL0111 Chlorobenzene, ExpertQ®, for analysis, ACS



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,105 - 1,107  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,004 meq/g  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm

magnesium (Mg) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 benzene (G.C.) . . . . . max. 0,01 %  
 total dichlorobenzenes (G.C.) . . . . . max. 0,01 %  
 total chlorotoluenes (G.C.) . . . . . max. 0,05 %  
 sulphur compounds (as CS<sub>2</sub>) . . . . . max. 0,0003 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
CL01111000	1 l	0
CL01112500	2,5 l	0

## CL0113 Chlorobenzene, standard substance for GC

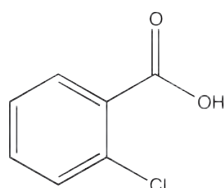


assay . . . . . 99,9%  
 over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200 °C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
CL01130005	5 ml	0

## 2-CHLOROBENZOIC ACID

## AC0765 2-Chlorobenzoic acid, EssentQ®

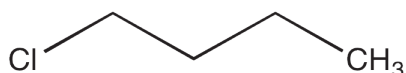


- Synonyms: o-Chlorobenzoic acid
- C<sub>7</sub>H<sub>5</sub>ClO<sub>2</sub>
- M = 156,57 g/mol
- CAS [118-91-2]
- EINECS-No.: 204-285-4
- Solub. in water: (20 °C): 21 g/l
- Melting point: 139 - 142 °C
- Boiling point: 284 - 286 °C
- Flash pt. 173 °C
- Ignition temp.: 530 °C
- LD 50 (oral, rat): 2465 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2916 39 00 90
- Applications: synthesis of organic products.

assay (acidimetric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 4-chlorobenzoic acid . . . . . max. 0,3 %  
 residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AC07650250	250 g	0

## 1-CHLOROBUTANE



- Synonyms: n-Butyl chloride, n-Propylcarbinyl chloride
- C<sub>4</sub>H<sub>9</sub>Cl
- M = 92,57 g/mol
- CAS [109-69-3]
- EINECS-No.: 203-696-6
- Density: 0,88 g/cm<sup>3</sup>
- Solub. in water: (20 °C): ~ 0,5 g/l
- Melting point: -123 °C
- Boiling point: 78 °C
- Flash pt. ~ -17 °C
- Ignition temp.: ~ 280 °C
- Vapour pressure: (20 °C) ~ 110 hPa

- LD 50 (oral, rat): 2670 mg/kg
- EC-Index-No.: 602-059-00-3
- ADR: 3 F1 II UN 1127
- IMDG: 3 II UN 1127
- IATA/ICAO: 3 II UN 1127
- GHS-signal word: Danger
- GHS-H sentences: H225
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2903 19 80 00
- Applications: analytical chemistry, synthesis of organic products.

CL0119 1-Chlorobutane, ExpertQ®, for analysis



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,885 - 0,887  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0005 meq/g  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 sulfur compounds (as S) . . . . . max. 0,002 %  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
CL01191000	1 l	0
CL0119025A	25 l	0

CL0120 1-Chlorobutane, HPLC grade

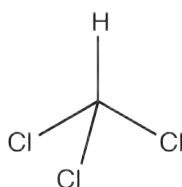


assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,885 - 0,887  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,03 %

min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 225 nm . . . . . 20 % 0,699 AU  
 230 nm . . . . . 50 % 0,301 AU  
 245 nm . . . . . 90 % 0,046 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
CL01201000	1 l	0
CL01202500	2,5 l	0

## CHLOROFORM



- Synonyms: Trichloromethane, Formyl trichloride
- CHCl<sub>3</sub>
- M = 119,38 g/mol
- CAS [67-66-3]
- EINECS-No.: 200-663-8
- Density: 1,47 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 8 g/l
- Melting point: -63 °C
- Boiling point: 61 °C
- Ignition temp.: 982 °C
- Vapour pressure: (20° C) 213 hPa
- Dielectric const.: (20 °C) 4,8
- LD 50 (oral, rat): 908 mg/kg
- EC-Index-No.: 602-006-00-4
- ADR: 6.1 T1 III UN 1888
- IMDG: 6.1 III UN 1888
- IATA/ICAO: 6.1 III UN 1888
- GHS-signal word: Danger
- GHS-H sentences: H331 - H372 - H351 - H361d - H302 - H315 - H319
- GHS-P sentences: P260 - P261 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2903 13 00 00
- Applications: solvents, analytical chemistry, in the rubber industry.

CL0200 Chloroform, EssentQ®, stabilized with ethanol



assay (G.C.) . . . . . 99,0 - 99,6 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 1,477 - 1,487  
 ethanol (G.C.) . . . . . 0,4 - 1,0 %  
 acidity or alkalinity . . . . . passes test  
 free chlorine (as Cl) . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,0002 %  
 copper (Cu) . . . . . max. 0,2 ppm

iron (Fe) . . . . . max. 0,2 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 aldehydes, ketones . . . . . passes test  
 carbon tetrachloride (G.C.) . . . . . max. 0,01 %  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
CL02001000	1 l	0
CL02002500	2,5 l	0
CL0200005P	5 l	0
CL0200025A	25 l	0
CL0200025P	25 l	0

CL0210 Chloroform, EssentQ®, stabilized with 150 ppm of amylene



assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,487 - 1,490  
 acidity or alkalinity . . . . . passes test  
 free chlorine (as Cl) . . . . . passes test  
 aldehydes, ketones . . . . . passes test  
 amylene (G.C.) . . . . . approx. 150 ppm

chlorides (Cl) . . . . . max. 0,0001 %  
 copper (Cu) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,2 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
CL02102500	2,5 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**CL0203** Chloroform, ExpertQ®, for analysis, ACS, ISO, stabilized with ethanol



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,474 - 1,483  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
ethanol (G.C.) . . . . . 0,5 - 1,0 %  
free acid (as HCl) . . . . . max. 0,0002 %  
free chlorine (as Cl) . . . . . max. 0,00003 %  
chlorides (Cl) . . . . . max. 0,00002 %  
aluminium (Al) . . . . . max. 0,5 ppm  
acid and chloride . . . . . passes test  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,000005 %  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
carbon tetrachloride (G.C.) . . . . . max. 0,01 %  
dichloromethane (G.C.) . . . . . max. 0,01 %  
tetrachloroethylene (G.C.) . . . . . max. 0,01 %  
trichloroethylene (G.C.) . . . . . max. 0,01 %  
carbonyl compounds (as CO) . . . . . max. 0,005 %  
aldehydes and ketones (as C<sub>2</sub>H<sub>2</sub>CHO) . . . . . passes test  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,01 %  
suitability for use in dithizone tests . . . . . passes test

ART. NO.	VOLUME	CONTAINER
CL02031000	1 l	0
CL02032500	2,5 l	0
CL0203005P	5 l	0
CL0203025A	25 l	0
CL0203200L	200 l	0

**CL0204** Chloroform, ExpertQ®, for analysis, ACS, stabilized with ethanol, for determinations with dithizone



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,474 - 1,483  
ethanol (G.C.) . . . . . 0,5 - 1,0 %  
free acid (as HCl) . . . . . max. 0,0005 %  
free chlorine (as Cl) . . . . . passes test  
chlorides (Cl) . . . . . max. 0,0001 %  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm

lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
carbon tetrachloride (G.C.) . . . . . max. 0,01 %  
dichloromethane (G.C.) . . . . . max. 0,01 %  
tetrachloroethylene (G.C.) . . . . . max. 0,01 %  
trichloroethylene (G.C.) . . . . . max. 0,01 %  
carbonyl compounds (as CO) . . . . . max. 0,005 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,01 %  
suitability for use in dithizone tests . . . . . passes test

ART. NO.	VOLUME	CONTAINER
CL02041000	1 l	0
CL02042500	2,5 l	0

**CL0218** Chloroform, stabilized with ethanol, Multisolvant® HPLC grade ACS ISO UV-VIS



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,474 - 1,483  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
ethanol (G.C.) . . . . . 0,5 - 1,0 %  
acidity . . . . . max. 0,0001 meq/g  
free chlorine (as Cl) . . . . . max. 0,00003 %  
chlorides (Cl) . . . . . max. 0,00002 %  
aluminium (Al) . . . . . max. 0,1 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,01 ppm  
cadmium (Cd) . . . . . max. 0,02 ppm  
calcium (Ca) . . . . . max. 0,01 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,01 ppm  
iron (Fe) . . . . . max. 0,02 ppm  
lead (Pb) . . . . . max. 0,01 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,01 ppm

nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,3 ppm  
aldehydes and ketones (as C<sub>2</sub>H<sub>2</sub>CHO) . . . . . passes test  
carbon tetrachloride (G.C.) . . . . . max. 0,01 %  
dichloromethane (G.C.) . . . . . max. 0,01 %  
tetrachloroethylene (G.C.) . . . . . max. 0,01 %  
trichloroethylene (G.C.) . . . . . max. 0,01 %  
suitability for use in dithizone tests . . . . . passes test  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0002 %  
water (K.F.) . . . . . max. 0,01 %  
liquid chromatography suitability  
absorbance . . . . . passes test  
min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A (AU)  
250 nm . . . . . 50 % 0,301 AU  
265 nm . . . . . 90 % 0,046 AU  
300 nm . . . . . 98 % 0,009 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
CL02181000	1 l	0
CL02182500	2,5 l	0
CL0218007E	7 l	0

**CL0207** Chloroform, HPLC grade, stabilized with amylene (approx. 150 ppm)



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,487 - 1,490  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
residue on evaporation . . . . . max. 0,0003 %  
water (K.F.) . . . . . max. 0,01 %

min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A (AU)  
248 nm . . . . . 20 % 0,699 AU  
253 nm . . . . . 50 % 0,301 AU  
265 nm . . . . . 90 % 0,046 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
CL02071000	1 l	0
CL02072500	2,5 l	0



**CL0208 Chloroform, for GC residue analysis, stabilized with ethanol**

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,474 - 1,484  
 ethanol (G.C.) . . . . . max. 1 %  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,01 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.  
 Suitable for pesticide and polycyclic aromatic hydrocarbons residue analysis. FID, from 1-octanol to 1-tetradecanol, no peaks are obtained greater than 5 ng/ml as 1-tetradecanol. No peaks are obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
CL02081000	1 l	0
CL02082500	2,5 l	0

**CL0199 Chloroform, standard substance for GC**

assay . . . . . 99,9%  
 over ramp . . . 40°C, 5°C/min 120°C, 30°C/min 200 °C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
CL01990005	5 ml	0

**CL0202 Chloroform, 99,9%, anhydrous (max. 0.003% H<sub>2</sub>O), stabilized with 150 ppm of amylene**

assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 1,490 - 1,493  
 colour (Hazen) . . . . . max. 10  
 free acid (as HCl) . . . . . max. 0,0001 %  
 free chlorine (as Cl) . . . . . passes test

chlorides (Cl) . . . . . max. 0,0002 %  
 aldehydes, ketones . . . . . passes test  
 amylene (G.C.) . . . . . approx. 150 ppm  
 carbon tetrachloride (G.C.) . . . . . max. 0,01 %  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
CL02020100	100 ml	0
CL02020500	500 ml	0
CL02021000	1 l	0

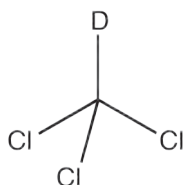
**CL0219 Chloroform, 99,9%, anhydrous (max. 0.003% H<sub>2</sub>O), with molecular sieves, stabilized with 150 ppm of amylene**

assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 1,490- 1,493  
 acidity or alkalinity . . . . . passes test  
 free chlorine (as Cl) . . . . . passes test  
 chlorides (Cl) . . . . . passes test

copper (Cu) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,2 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 water (K.F.) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
CL02191000	1 l	0

## CHLOROFORM-D



- CDCl<sub>3</sub>
- M = 120,38 g/mol
- CAS [865-49-6]
- EINECS-No.: 212-742-4
- Density: 1,50 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 8,2 g/l
- Melting point: -64,1 °C
- Boiling point: 60 °C
- Vapour pressure: (20 °C) 211 hPa
- LD 50 (oral, rat): 908 mg/kg
- EC-Index-No.: 602-006-00-4

- ADR: 6.1 T1 III UN 1888
- IMDG: 6.1 III UN 1888
- IATA/ICAO: 6.1 III UN 1888
- GHS-signal word: Danger
- GHS-H sentences: H331 - H372 - H351 - H361d - H302 - H315 - H319
- GHS-P sentences: P260 - P261 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2845 90 10 00
- Applications: for nuclear magnetic resonance spectroscopy.

**CL0213 Chloroform-d, deuteration degree min. 99,8%, NMR spectroscopy grade, Spectrosol®**

deuteration degree . . . . . min. 99,8 %  
 water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) . . . . . max. 0,01 %  
 performance test (NMR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
CL02130100	100 ml	0
CL02130500	500 ml	0

ART. NO.	VOLUME	CONTAINER
CL02131000	1 l	0

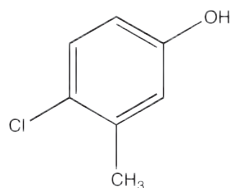
**CL0215 Chloroform-d + TMS (99:1, v/v), deuteration degree min. 99,8%, NMR spectroscopy grade, Spectrosol®**

deuteration degree . . . . . min. 99,8 %  
 water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) . . . . . max. 0,02 %  
 performance test (NMR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
CL02150100	100 ml	0

## 4-CHLORO-3-METHYLPHENOL

CL0125 4-Chloro-3-methylphenol, EssentQ®



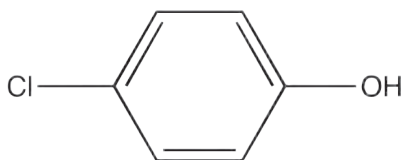
- Synonyms: 4-Chloro-m-cresol, 2-Chloro-5-hydroxytoluene
- C<sub>8</sub>H<sub>9</sub>ClO
- M = 142,59 g/mol
- CAS [59-50-7]
- EINECS-No.: 200-431-6
- Solub. in water: (20 °C): 4 g/l
- Melting point: 63 - 65 °C
- Boiling point: 235 - 238 °C
- Flash pt. 118 °C
- Ignition temp.: 590 °C
- Vapour pressure: (20 °C) 0,08 hPa
- LD 50 (oral, rat): 1830 mg/kg
- EC-Index-No.: 604-014-00-3
- ADR: 6.1 T1 II UN 3437
- IMDG: 6.1 II UN 3437
- IATA/ICAO: 6.1 II UN 3437
- GHS-signal word: Danger

- GHS-H sentences: H318 - H400 - H302 - H312 - H317
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P322 - P501a
- Tariff number: 2908 19 00 90
- Applications: disinfectant and antiseptic.
- Appearance: White tablets
- assay (G.C.) . . . . . min. 99,5 %
- identity (IR-spectrum) . . . . . passes test
- residue on ignition . . . . . max. 0,02 %
- water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
CL01250250	250 g	
CL01251000	1 kg	
CL0125005P	5 l	

## 4-CHLOROPHENOL

CL0160 4-Chlorophenol, EssentQ®



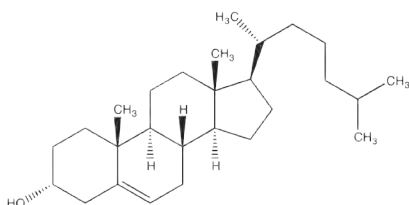
- Synonyms: 4-Chloro-1-hydroxybenzene
- C<sub>6</sub>H<sub>5</sub>ClO
- M = 128,56 g/mol
- CAS [106-48-9]
- EINECS-No.: 203-402-6
- Solub. in water: (20 °C): 27 g/l
- Melting point: 41 - 44 °C
- Boiling point: 216 - 218 °C
- Flash pt. 121 °C
- Vapour pressure: (20 °C) 0,15 hPa
- LD 50 (oral, rat): 261 mg/kg
- EC-Index-No.: 604-008-00-0 [2]
- ADR: 6.1 T2 III UN 2020
- IMDG: 6.1 III UN 2020
- IATA/ICAO: 6.1 III UN 2020
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H332 - H411
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 2908 19 00 00
- Applications: synthesis of organic products, laboratory reagent.

- assay (G.C.) . . . . . min. 98 %
- identity (IR-spectrum) . . . . . passes test
- residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
CL01600250	250 g	
CL01601000	1 kg	

## CHOLESTEROL

CO0180 Cholesterol, extra pure, Pharmpur®, Ph Eur, BP, NF



- Synonyms: 2-Cholesten-3b-ol
- C<sub>27</sub>H<sub>46</sub>O
- M = 386,67 g/mol
- CAS [57-88-5]
- EINECS-No.: 200-353-2
- Solub. in water: (20 °C): insoluble
- Melting point: 147 - 150 °C
- Boiling point: ~ 360 °C (decomposes)
- Tariff number: 2906 13 10 00
- Applications: analytical chemistry, for pharmaceutical use, in pharma industry.

- assay (G.C., referred to dried sample) 95,0 - 102,0 %
- identification . . . . . passes test
- melting range . . . . . 147 - 150 °C
- acidity . . . . . passes test
- solubility in ethanol . . . . . passes test
- specific rotation ([α]<sub>D</sub><sup>25</sup>; c = 2, dioxane) - 38° - - 34° total sterols (G.C., referred to dried sample) . . . . . 97,0 - 103,0 %
- limit of related sterols and other organic impurities (G.C.) . . . . . passes test
- residue on ignition . . . . . max. 0,1 %
- loss on drying (4 h, 60°C, vacuum) . . . . . max. 0,3 %
- Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.
- Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CO01800100	100 g	

## CHROMIC MIXTURE

CR0210 Chromic mixture



- Synonyms: Chromosulfuric acid, Dichromate sulfuric acid mixture
- CAS [65272-71-1]
- Density: 1,84 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Boiling point: 330 °C
- ADR: 8 C1 I UN 2240
- IMDG: 8 I UN 2240
- IATA/ICAO: 8 I UN 2240
- GHS-signal word: Danger

- GHS-H sentences: H334 - H340 - H350 - H360FD - H373 - H314 - H332 - H317 - H411
- GHS-P sentences: P260 - P285 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3824 90 99 99
- Applications: for laboratory glassware cleaning.
- Appearance: Red-dark brown liquid

For glassware cleaning

ART. NO.	VOLUME	CONTAINER
CR02101000	1 l	0

## CHROMIUM(III) CHLORIDE HEXAHYDRATE

CR0190 Chromium(III) chloride hexahydrate, EssentQ®, Reag. Ph Eur



- CrCl<sub>3</sub>·6H<sub>2</sub>O
- M = 266,45 g/mol
- CAS [10060-12-5]
- EINECS-No.: 233-038-3
- Solub. in water: (20 °C): 590 g/l
- Melting point: 95 °C
- LD 50 (oral, rat): 1790 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2827 39 85 90

- Applications: analytical chemistry, synthesis of polymers, synthesis of organic products, for the synthesis of: chromium salts, corrosion inhibitor.

assay (iodometric) . . . . . min. 97 %  
 identification . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 2 - 3  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,05 %  
 copper (Cu) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,03 %  
 lead (Pb) . . . . . max. 0,005 %  
 non precipitable by NH<sub>4</sub>OH (as SO<sub>4</sub>) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
CR01901000	1 kg	0

## CHROMIUM(III) NITRATE NONAHYDRATE

CR0194 Chromium(III) nitrate nonahydrate, EssentQ®



- Synonyms: Chromic nitrate nonahydrate
- Cr(NO<sub>3</sub>)<sub>3</sub>·9H<sub>2</sub>O
- M = 400,15 g/mol
- CAS [7789-02-8]
- EINECS-No.: 236-921-1
- Solub. in water: (20 °C): 810 g/l
- Melting point: 36 - 37 °C
- LD 50 (oral, rat): 3250 mg/l
- ADR: 5.1 O2 III UN 2720
- IMDG: 5.1 III UN 2720
- IATA/ICAO: 5.1 III UN 2720

- GHS-signal word: Danger
- GHS-H sentences: H272 - H302
- GHS-P sentences: P221 - P210 - P220 - P280 - P264 - P501a
- Tariff number: 2834 29 80 00
- Applications: for the synthesis of: catalyst (Cr); in the textile industry; corrosion inhibitor.

assay (iodometric) . . . . . min. 97 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 2 - 3  
 chlorides (Cl) . . . . . max. 0,01 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,05 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,01 %  
 iron (Fe) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
CR01940500	500 g	0
CR0194005P	5 kg	0

## CHROMIUM(VI) OXIDE

AN0200 Chromium(VI) oxide, EssentQ®, Reag. Ph Eur



- Synonyms: Chromium trioxide, Chromic anhydride
- CrO<sub>3</sub>
- M = 99,99 g/mol
- CAS [1333-82-0]
- EINECS-No.: 215-607-8
- Solub. in water: (20 °C): soluble
- Melting point: 197 °C
- LD 50 (oral, rat): 80 mg/kg
- EC-Index-No.: 024-001-00-0
- ADR: 5.1 OTC II UN 1463
- IMDG: 5.1 II UN 1463
- IATA/ICAO: 5.1 II UN 1463
- GHS-signal word: Danger

- GHS-H sentences: H271 - H301 - H311 - H330 - H334 - H340 - H350 - H372 - H361f - H314 - H400 - H410 - H317
- GHS-P sentences: P221 - P283 - P303 + P361 + P353 - P305 + P351 + P338 - P320 - P361 - P405 - P501a
- Tariff number: 2819 10 00 00
- Applications: analytical chemistry, corrosion inhibitor, photography, oxidizing agent (synthesis of organic products), microscopy.

assay (iodometric) . . . . . min. 99 %  
 insoluble in water . . . . . max. 0,1 %  
 chlorides (Cl) . . . . . max. 0,02 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,05 %  
 loss on drying (105 °C) . . . . . max. 1 %

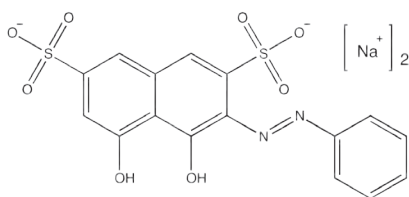
ART. NO.	VOLUME	CONTAINER
AN02000500	500 g	0
AN02001000	1 kg	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## CHROMOTROP 2 R, C.I. 16570

CR0235 Chromotrop 2 R, C.I. 16570, for complexometry



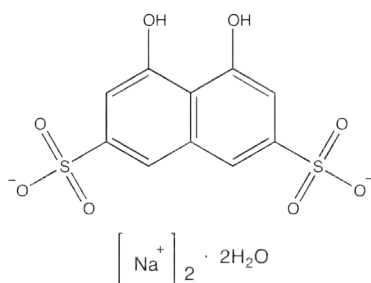
- Synonyms: 2-(Phenylazo)chromotropic acid disodium salt, Acid red 29
- $C_{16}H_{10}N_2Na_2O_6S_2$
- $M = 468,39 \text{ g/mol}$
- CAS [4197-07-3]
- EINECS-No.: 224-085-0
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2927 00 00 90
- Applications: indicator, for biology, complexant agent.

suitability for complexometry . . . . . passes test

ART. NO.	VOLUME	CONTAINER
CR02350010	10 g	0

## CHROMOTROPIC ACID, DISODIUM SALT DIHYDRATE

AC0788 Chromotropic acid, disodium salt dihydrate, ExpertQ®, for analysis, ACS



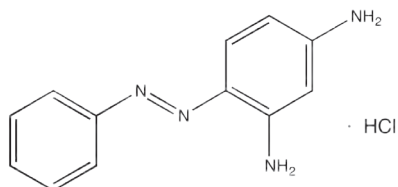
- Synonyms: 4,5-Dihydroxy-2,7-naphthalenedisulfonic acid disodium salt dihydrate
- $C_{16}H_{10}Na_2O_8S_2 \cdot 2H_2O$
- $M = 400,30 \text{ g/mol}$
- CAS [5808-22-0]
- EINECS-No.: 204-972-9
- Solub. in water: (20 °C): 170 g/l
- Tariff number: 2908 99 00 90
- Applications: analytical chemistry, manufacture of dyes, for determination of: silver, mercury, chlorates, nitrates, nitrites, chromium and titanium.

assay (acidimetric) . . . . . min. 98,5 %  
identity (IR-spectrum) . . . . . passes test  
appearance of solution . . . . . passes test  
sulfates ( $SO_4$ ) . . . . . max. 0,002 %  
suitability for determination of formaldehyde . . . . . passes test  
suitability for determination of nitrates . . . . . passes test  
water (K.F.) . . . . . 8,5 - 9,5 %

ART. NO.	VOLUME	CONTAINER
AC07880025	25 g	0
AC07880050	50 g	0

## CHRYSOIDINE G

CR0175 Chrysoidine G, C.I. 11270, for microscopy



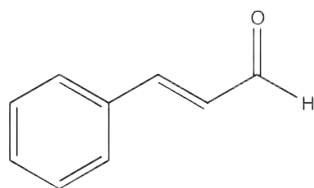
- Synonyms: 4-(Phenylazo)-1,3-phenylenediamine monohydrochloride, Basic orange 2
- $C_{12}H_{12}N_2 \cdot HCl$
- $M = 248,72 \text{ g/mol}$
- CAS [532-82-1]
- EINECS-No.: 208-545-0
- Solub. in water: (15 °C): 55 g/l
- Melting point: 118 - 118,5 °C
- LD 50 (oral, rat): 6670 mg/kg
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Danger
- GHS-H sentences: H318 - H341 - H410 - H302 - H315
- GHS-P sentences: P280 - P305 + P351 + P338 - P310 - P321 - P405 - P501a
- Tariff number: 2927 00 00 90
- Applications: microscopy, for biology (dye), dye (in the textile industry).

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
CR01750025	25 g	0

## CINNAMALDEHYDE

AL0535 Cinnamaldehyde, EssentQ®

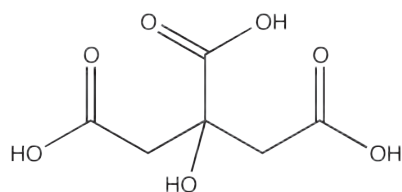


- Synonyms: trans-Cinnamic aldehyde, trans-3-Phenyl-2-propenal
- $C_9H_8O$
- $M = 132,16 \text{ g/mol}$
- CAS [104-55-2]
- EINECS-No.: 203-213-9
- Density:  $1,05 \text{ g/cm}^3$
- Solub. in water: (20 °C): 1,1 g/l
- Melting point:  $-8 \text{ °C}$
- Boiling point: (21 hPa)  $127 \text{ °C}$
- Flash pt.  $138 \text{ °C}$
- Vapour pressure: (20 °C)  $< 0,1 \text{ hPa}$
- Refraction index: (n 20 °C/D) 1,6219
- LD 50 (oral, rat): 2220 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H312 - H315 - H317
- GHS-P sentences: P261 - P280 - P321 - P322 - P362 - P501a
- Tariff number: 2912 29 00 90
- Applications: analytical chemistry, perfumery, in food industry, synthesis of organic products.

assay (G.C.) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,048 - 1,051  
residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AL05350250	250 ml	0
AL05351000	1 l	0

## CITRIC ACID ANHYDROUS



- Synonyms: 2-Hydroxy-1,2,3-propanetricarboxylic acid, b-Hydroxy tricarboxylic acid
- $C_6H_8O_7$
- $M = 192,13 \text{ g/mol}$
- CAS [77-92-9]
- EINECS-No.: 201-069-1
- Solub. in water: (20 °C): soluble
- Melting point:  $-153 \text{ °C}$  (decomposes)
- Ignition temp.:  $345 \text{ °C}$

- Vapour pressure: (20 °C)  $< 0,1 \text{ hPa}$
- LD 50 (oral, rat): 3000 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2918 14 00 00
- Applications: acidifying agent, analytical chemistry, laboratory reagent, in food industry, antioxidant.

AC0718 Citric acid anhydrous, extra pure, Pharmpur®, Ph Eur, BP, USP



assay (acidimetric, referred to dried sample) . . . . . 99,5 - 100,5 %  
identification . . . . . passes test  
appearance of solution . . . . . passes test  
clarity of solution . . . . . passes test  
colour of solution . . . . . passes test  
oxalic acid ( $C_2H_2O_4$ ) . . . . . max. 0,036 %  
sulfates ( $SO_4$ ) . . . . . max. 150 ppm

readily carbonizable substances . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
water (K.F.) . . . . . max. 1,0 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC07180500	500 g	P
AC07181000	1 kg	P
AC0718005P	5 kg	P
AC0718025P	25 kg	P

AC0719 Citric acid anhydrous, ExpertQ®, for analysis, ACS, Reag. Ph Eur

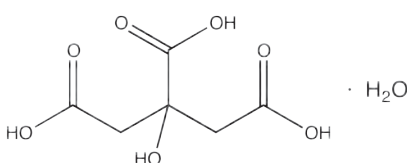


assay (acidimetric) . . . . . min. 99,5 %  
assay (acidimetric, referred to dried sample) . . . . . 99,5 - 100,5 %  
identity (IR-spectrum) . . . . . passes test  
appearance of solution . . . . . passes test  
insoluble in water . . . . . max. 0,005 %  
chlorides (Cl) . . . . . max. 0,001 %  
oxalates ( $C_2O_4$ ) . . . . . passes test

phosphates (as  $PO_4$ ) . . . . . max. 0,001 %  
sulfates ( $SO_4$ ) . . . . . max. 150 ppm  
iron (Fe) . . . . . max. 3 ppm  
lead (Pb) . . . . . max. 2 ppm  
readily carbonizable substances . . . . . passes test  
sulphur compounds (as  $SO_2$ ) . . . . . max. 0,002 %  
residue on ignition . . . . . max. 0,02 %  
water (K.F.) . . . . . max. 1,0 %

ART. NO.	VOLUME	CONTAINER
AC07190500	500 g	P
AC07191000	1 kg	P
AC0719005P	5 kg	P
AC0719025P	25 kg	P

## CITRIC ACID MONOHYDRATE



- Synonyms: 2-Hydroxy-1,2,3-propanetricarboxylic acid monohydrate, b-Hydroxytricarballic acid monohydrate
- $C_6H_8O_7 \cdot H_2O$
- $M = 210,14 \text{ g/mol}$
- CAS [5949-29-1]
- EINECS-No.: 201-069-1
- Solub. in water: (20 °C): very soluble in water
- Melting point:  $135 - 152 \text{ °C}$
- Boiling point:  $135 - 152 \text{ °C}$  (decomposes)





- Ignition temp.:  $345 \text{ °C}$
- Vapour pressure: (20 °C)  $< 0,1 \text{ hPa}$
- LD 50 (oral, rat): 3000 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2918 14 00 00
- Applications: analytical chemistry, laboratory reagent, in buffer solutions.



AC0720 Citric acid monohydrate, extra pure, Phampur®, Ph Eur, BP, USP 

assay (acidimetric, referred to dried sample) . . . . . 99,5 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 clarity of solution . . . . . passes test  
 colour of solution . . . . . passes test  
 sulfates (SO<sub>4</sub>) . . . . . max. 150 ppm  
 oxalic acid (C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>) . . . . . max. 360 ppm





readily carbonizable substances . . . . . passes test  
 residue on ignition . . . . . max. 0,05 %  
 water (K.F.) . . . . . 7,5 - 9,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC07200500	500 g	
AC07201000	1 kg	
AC0720005P	5 kg	
AC0720025P	25 kg	

AC0725 Citric acid monohydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur 

assay (acidimetric) . . . . . 99,5 - 100,5 %  
 assay (acidimetric, referred to dried sample) . . . . . 99,5 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 5 ppm  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
 oxalates (C<sub>2</sub>O<sub>4</sub>) . . . . . passes test  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %

oxalic acid (C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>) . . . . . max. 360 ppm  
 sulphur compounds (as SO<sub>4</sub>) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 3 ppm  
 lead (Pb) . . . . . max. 2 ppm  
 readily carbonizable substances . . . . . passes test  
 residue on ignition . . . . . max. 0,02 %  
 water (K.F.) . . . . . 7,5 - 9,0 %  
 suitability for determination of Fe. . . . . passes test

ART. NO.	VOLUME	CONTAINER
AC07250500	500 g	
AC07251000	1 kg	
AC0725005P	5 kg	
AC0725025P	25 kg	

## COBALT(II) CHLORIDE HEXAHYDRATE

- CoCl<sub>2</sub>·6H<sub>2</sub>O
- M = 237,93 g/mol
- CAS [7791-13-1]
- EINECS-No.: 231-589-4
- Solub. in water: (20 °C): 76 g/l
- Melting point: 56 °C
- LD 50 (oral, rat): 766 mg/kg






- EC-Index-No.: 027-004-00-5
- ADR: 6.1 T5 III UN 3288
- IMDG: 6.1 III UN 3288
- IATA/ICAO: 6.1 III UN 3288
- GHS-signal word: Danger
- GHS-H sentences: H334 - H350 - H400 - H410 - H302 - H317

- GHS-P sentences: P285 - P261 - P280 - P321 - P405 - P501a
- Tariff number: 2827 34 00 00
- Applications: analytical chemistry, laboratory reagent, invisible ink.
- Appearance: Violet solid

CO0025 Cobalt(II) chloride hexahydrate, EssentQ®   

assay (complexometric) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,007 %  
 copper (Cu) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,002 %  
 nickel (Ni) . . . . . max. 0,15 %

zinc (Zn) . . . . . max. 0,05 %  
 non precipitable with (NH<sub>4</sub>)<sub>2</sub>S (as SO<sub>4</sub>) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
CO00250100	100 g	
CO00250500	500 g	
CO00251000	1 kg	
CO0025005P	5 kg	
CO0025025P	25 kg	

CO0027 Cobalt(II) chloride hexahydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur   

assay (complexometric) . . . . . 99,0 - 102,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,01 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 calcium (Ca) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 0,005 %

lead (Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,002 %  
 manganese (Mn) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 0,05 %  
 potassium (K) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,01 %  
 zinc (Zn) . . . . . max. 0,002 %  
 non precipitable with (NH<sub>4</sub>)<sub>2</sub>S (as SO<sub>4</sub>) . . . . . max. 0,25 %

ART. NO.	VOLUME	CONTAINER
CO00270250	250 g	
CO00271000	1 kg	
CO0027005P	5 kg	

## COBALT(II) NITRATE HEXAHYDRATE

- Synonyms: Nitric acid cobalt salt hexahydrate
- Co(NO<sub>3</sub>)<sub>2</sub>·6H<sub>2</sub>O
- M = 291,04 g/mol
- CAS [10026-22-9]
- EINECS-No.: 233-402-1
- Solub. in water: (20 °C): soluble
- Melting point: 57 °C

- LD 50 (oral, rat): 691 mg/kg
- ADR: 5.1 O2 II UN 1477
- IMDG: 5.1 II UN 1477
- IATA/ICAO: 5.1 II UN 1477
- GHS-signal word: Danger
- GHS-H sentences: H272 - H302 + H332 - H318 - H334 - H317 - H360F - H341 - H350i - H400 - H410

- GHS-P sentences: P221 - P210 - P220 - P321 - P405 - P501a
- Tariff number: 2834 29 20 00
- Applications: analytical chemistry, laboratory reagent, pigment, invisible ink.
- Appearance: Pink-red-brown crystalline powder

CO0045 Cobalt(II) nitrate hexahydrate, EssentQ®



assay (complexometric) . . . . . 98,0 - 102,0 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,01 %  
chlorides (Cl) . . . . . max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,02 %

copper (Cu) . . . . . max. 0,005 %  
lead (Pb) . . . . . max. 0,005 %  
iron (Fe) . . . . . max. 0,005 %  
nickel (Ni) . . . . . max. 0,05 %  
zinc (Zn) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
CO00450500	500 g	
CO00451000	1 kg	
CO0045005P	5 kg	

CO0046 Cobalt(II) nitrate hexahydrate, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (complexometric) . . . . . 99,0 - 102,0 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,005 %  
chlorides (Cl) . . . . . max. 0,002 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
ammonium (NH<sub>4</sub>) . . . . . max. 0,05 %  
calcium (Ca) . . . . . max. 0,005 %  
copper (Cu) . . . . . max. 0,001 %

iron (Fe) . . . . . max. 0,001 %  
lead (Pb) . . . . . max. 0,001 %  
magnesium (Mg) . . . . . max. 0,005 %  
manganese (Mn) . . . . . max. 0,005 %  
nickel (Ni) . . . . . max. 0,001 %  
potassium (K) . . . . . max. 0,01 %  
sodium (Na) . . . . . max. 0,05 %  
zinc (Zn) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
CO00460250	250 g	
CO0046005P	5 kg	

## COBALT(II) SULFATE HEPTAHYDRATE

- CoSO<sub>4</sub>·7H<sub>2</sub>O
- M = 281,10 g/mol
- CAS [10026-24-1]
- EINECS-No.: 233-334-2
- Solub. in water: (20 °C): 260 g/l
- Melting point: 98 °C
- LD 50 (oral, rat): 582 mg/kg

- EC-Index-No.: 027-005-00-0
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Danger
- GHS-H sentences: H334 - H350 - H400 - H410 - H302 - H317

- GHS-P sentences: P285 - P261 - P280 - P321 - P405 - P501a
- Tariff number: 2833 29 30 00
- Applications: analytical chemistry, laboratory reagent, in porcelain industry, pigment, manufacturing of inks.

CO0075 Cobalt(II) sulfate heptahydrate, EssentQ®



assay (complexometric) . . . . . min. 98 %  
pH (5 %, H<sub>2</sub>O) . . . . . min. 3  
nitrogen compounds (as N) . . . . . max. 0,01 %  
chlorides (Cl) . . . . . max. 0,005 %  
copper (Cu) . . . . . max. 0,005 %  
iron (Fe) . . . . . max. 0,005 %  
lead (Pb) . . . . . max. 0,005 %

zinc (Zn) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
CO00750250	250 g	
CO00751000	1 kg	
CO0075005P	5 kg	
CO0075025P	25 kg	

CO0077 Cobalt(II) sulfate heptahydrate, ExpertQ®, for analysis



assay (complexometric) . . . . . min. 99 %  
insoluble in water . . . . . passes test  
chlorides (Cl) . . . . . max. 0,001 %  
total nitrogen (as N) . . . . . max. 0,002 %  
calcium (Ca) . . . . . max. 0,005 %  
copper (Cu) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 5 ppm

lead (Pb) . . . . . max. 0,001 %  
magnesium (Mg) . . . . . max. 0,005 %  
manganese (Mn) . . . . . max. 0,0025 %  
nickel (Ni) . . . . . max. 0,025 %  
potassium (K) . . . . . max. 0,005 %  
sodium (Na) . . . . . max. 0,01 %  
zinc (Zn) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
CO00770250	250 g	
CO00771000	1 kg	
CO0077005P	5 kg	

## COCKTAILS FOR LIQUID SCINTILLATION

CO0150 Cocktail Biogreen 3, for liquid scintillation



- Density: 0,99 g/cm<sup>3</sup>
- Boiling point: 315 °C
- Flash pt. 130 °C
- Vapour pressure: (20 °C) 1,5 hPa
- ADR: 9 M6 III UN 3082
- IMDG: 9 III UN 3082
- IATA/ICAO: 9 III UN 3082
- GHS-signal word: Danger

- GHS-H sentences: H315 - H318 - H304 - H410
- GHS-P sentences: P273 - P280 - P301 + P310 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: for liquid scintillation.

Liquid scintillation solution for counting aqueous samples. Suitable for biological samples without previous treatment including tissue solubilisers. Odourless and with low volatility.

ART. NO.	VOLUME	CONTAINER
CO0150005P	5 l	

## COLLODION FLEXIBLE

CO0192 Collodion flexible, EssentQ®



- CAS [9004-70-0]
- Density: 0,78 g/cm<sup>3</sup>
- Solub. in water: (20 °C): insoluble
- Boiling point: (1000 hPa) 34,6 °C
- Flash pt. -52 °C
- Ignition temp.: 170 °C
- Vapour pressure: (20 °C) 576 hPa
- ADR: 3 D I UN 2059
- IMDG: 3 I UN 2059
- IATA/ICAO: 3 I UN 2059

- GHS-signal word: Danger
- GHS-H sentences: H224 - H302 - H336 - EUH019
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 3912 20 11 00
- Applications: in building materials, manufacturing of lacquers, in the textile industry.
- Appearance: Oily colourless liquid

density (25°/4°) ..... 0,775 - 0,790

ART. NO.	VOLUME	CONTAINER
CO01920250	250 ml	0
CO01921000	1 l	0

## COLLODION, SOLUTION 4%

CO0190 Collodion, solution approx. 4% w/v, extra pure, Phampur®, USP



- Density: 0,76 - 0,80 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Boiling point: ~ 34 °C
- Flash pt. -52 °C
- Ignition temp.: 170 °C
- Vapour pressure: (20 °C) 576 hPa
- LD 50 (oral, rat): 1215 mg/kg (toxic component)
- ADR: 3 D I UN 2059
- IMDG: 3 I UN 2059
- IATA/ICAO: 3 I UN 2059
- GHS-signal word: Danger
- GHS-H sentences: H224 - H302 - H336 - EUH019

- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 3912 20 11 00
- Applications: photography, manufacturing of lacquers, in building materials, in pharma industry.

assay (w/w) ..... approx. 5 %  
 identification ..... passes test  
 density (25°/25°) ..... 0,765 - 0,775  
 acidity ..... passes test  
 ethanol (G.C.) ..... 22,0 - 26,0 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CO01900250	250 ml	0
CO01901000	1 l	0

## COMPLEXON – MAGNESIUM, VOLUMETRIC SOLUTIONS

CO0221 Complexon - magnesium, solution 0,1 mol/l

- Density: 1,032 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

Suitable for complexometry

ART. NO.	VOLUME	CONTAINER
CO02210250	250 ml	0
CO02211000	1 l	0

## COPPER

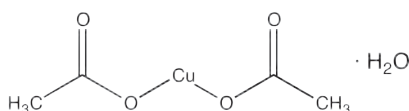
CO0093 Copper, powder, EssentQ®, Reag. Ph Eur

- Cu
- M = 63,55 g/mol
- CAS [7440-50-8]
- EINECS-No.: 231-159-6
- Solub. in water: (20 °C): insoluble
- Melting point: 1083 °C
- Boiling point: 2595 °C
- Tariff number: 7406 10 00 00
- Applications: analytical chemistry, electrical conductor, catalyst (synthesis of organic products), metal alloys.

assay (iodometric) ..... min. 99,7 %  
 insoluble in HNO<sub>3</sub> ..... max. 0,05 %  
 antimony (Sb) ..... max. 0,001 %  
 arsenic (As) ..... max. 5 ppm  
 iron (Fe) ..... max. 0,005 %  
 lead (Pb) ..... max. 0,05 %  
 manganese (Mn) ..... max. 0,001 %  
 nickel (Ni) ..... max. 0,005 %  
 silver (Ag) ..... max. 0,002 %  
 tin (Sn) ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
CO00930500	500 g	0
CO00931000	1 kg	0

## COPPER(II) ACETATE MONOHYDRATE



- Synonyms: Cupric acetate
- Cu(CH<sub>3</sub>COO)<sub>2</sub>·H<sub>2</sub>O
- M = 199,65 g/mol
- CAS [6046-93-1]
- EINECS-No.: 205-553-3
- Solub. in water: (20 °C): 72 g/l
- Melting point: 115 °C
- Boiling point: 240 °C (decomposes)
- LD 50 (oral, rat): 710 mg/kg
- ADR: 8 CT2 II UN 2923

- IMDG: 8 II UN 2923
- IATA/ICAO: 8 II UN 2923
- GHS-signal word: Danger
- GHS-H sentences: H314 - H318 - H400 - H302
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2915 29 00 00
- Applications: analytical chemistry, pigment (in porcelain industry), fungicide, spraying reagent in thin layer chromatography.

CO0092 Copper(II) acetate monohydrate, EssentQ®



assay (iodometric) . . . . . min. 99 %	nickel (Ni) . . . . . max. 0,02 %
insoluble in water . . . . . max. 0,02 %	zinc (Zn) . . . . . max. 0,01 %
pH (5 %, H <sub>2</sub> O) . . . . . 5 - 6	
chlorides (Cl) . . . . . max. 0,01 %	
sulfates (SO <sub>4</sub> ) . . . . . max. 0,01 %	
iron (Fe) . . . . . max. 0,005 %	
lead (Pb) . . . . . max. 0,01 %	

ART. NO.	VOLUME	CONTAINER
CO00920500	500 g	Ⓟ
CO00921000	1 kg	Ⓟ
CO0092005P	5 kg	Ⓟ
CO0092025P	25 kg	Ⓟ

CO0095 Copper(II) acetate monohydrate, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (iodometric) . . . . . 99 - 102 %	magnesium (Mg) . . . . . max. 0,001 %
insoluble in diluted CH <sub>3</sub> COOH . . . . . max. 0,01 %	nickel (Ni) . . . . . max. 0,002 %
chlorides (Cl) . . . . . max. 0,001 %	potassium (K) . . . . . max. 0,01 %
sulfates (SO <sub>4</sub> ) . . . . . max. 0,005 %	sodium (Na) . . . . . max. 0,01 %
total nitrogen (as N) . . . . . max. 0,01 %	zinc (Zn) . . . . . max. 0,002 %
calcium (Ca) . . . . . max. 0,005 %	
iron (Fe) . . . . . max. 0,002 %	
lead (Pb) . . . . . max. 0,004 %	

ART. NO.	VOLUME	CONTAINER
CO00950250	250 g	Ⓟ
CO00950500	500 g	Ⓟ
CO00951000	1 kg	Ⓟ
CO0095005P	5 kg	Ⓟ
CO0095025P	25 kg	Ⓟ

**COPPER(II) CHLORIDE**

CO0097 Copper(I) chloride, ExpertQ®, for analysis, ACS



<ul style="list-style-type: none"> <li>Synonyms: Copper monochloride</li> <li>CuCl</li> <li>M = 98,99 g/mol</li> <li>CAS [7758-89-6]</li> <li>EINECS-No.: 231-842-9</li> <li>Solub. in water: (25 °C): 0,06 g/l</li> <li>Melting point: 422 °C</li> <li>Boiling point: 1366 °C</li> <li>LD 50 (oral, rat): 140 mg/kg</li> <li>EC-Index-No.: 029-001-00-4</li> <li>ADR: 8 C2 III UN 2802</li> <li>IMDG: 8 III UN 2802</li> <li>IATA/ICAO: 8 III UN 2802</li> <li>GHS-signal word: Warning</li> </ul>	<ul style="list-style-type: none"> <li>GHS-H sentences: H400 - H410 - H302</li> <li>GHS-P sentences: P273 - P264 - P270 - P330 - P391 - P501a</li> <li>Tariff number: 2827 39 80 10</li> <li>Applications: analytical chemistry, for the detection of: arsenic and antimony hydrides, for the absorption of carbon monoxide, laboratory reagent.</li> <li>Appearance: Light green crystalline powder</li> </ul>	assay (iodometric) . . . . . min. 97 % identity (IR-spectrum) . . . . . passes test insoluble in acid . . . . . max. 0,02 % sulfates (SO <sub>4</sub> ) . . . . . max. 0,05 % arsenic (As) . . . . . max. 1 ppm calcium (Ca) . . . . . max. 0,01 % iron (Fe) . . . . . max. 0,005 % lead (Pb) . . . . . max. 0,02 % potassium (K) . . . . . max. 0,02 % sodium (Na) . . . . . max. 0,05 %
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ART. NO.	VOLUME	CONTAINER
CO00970250	250 g	Ⓟ

**COPPER(II) CHLORIDE DIHYDRATE**

<ul style="list-style-type: none"> <li>Synonyms: Copper dichloride dihydrate</li> <li>CuCl<sub>2</sub>·2H<sub>2</sub>O</li> <li>M = 170,48 g/mol</li> <li>CAS [10125-13-0]</li> <li>EINECS-No.: 231-210-2</li> <li>Solub. in water: (20 °C): soluble</li> <li>Melting point: ~ 100 °C</li> </ul>	<ul style="list-style-type: none"> <li>LD 50 (oral, rat): 584 mg/kg (anhydrous substance)</li> <li>ADR: 8 C2 III UN 2802</li> <li>IMDG: 8 III UN 2802</li> <li>IATA/ICAO: 8 III UN 2802</li> <li>GHS-signal word: Warning</li> <li>GHS-H sentences: H400 - H411 - H302 + H312 - H315 - H318 - H335</li> </ul>	<ul style="list-style-type: none"> <li>GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a</li> <li>Tariff number: 2827 39 80 90</li> <li>Applications: catalyst, invisible ink, analytical chemistry.</li> <li>Appearance: Blue crystals</li> </ul>
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CO0100 Copper(II) chloride dihydrate, extra pure, Phampur®, USP



assay (iodometric, referred to dried sample) . . . . . 99,0 - 100,5 % identification . . . . . passes test insoluble matter . . . . . max. 0,01 % sulfates (SO <sub>4</sub> ) . . . . . max. 0,005 % calcium (Ca) . . . . . max. 0,005 % iron (Fe) . . . . . max. 0,005 % nickel (Ni) . . . . . max. 0,01 %	potassium (K) . . . . . max. 0,01 % sodium (Na) . . . . . max. 0,02 % loss on drying (105 °C, 16 h) . . . . . 20,9 - 21,4 % Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013. Residual solvents are analysed according to guideline CPMP/ICH/283/95.
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ART. NO.	VOLUME	CONTAINER
CO01000500	500 g	Ⓟ
CO01001000	1 kg	Ⓟ
CO0100005P	5 kg	Ⓟ
CO0100025P	25 kg	Ⓟ

CO0112 Copper(II) chloride dihydrate, ExpertQ®, for analysis, ACS

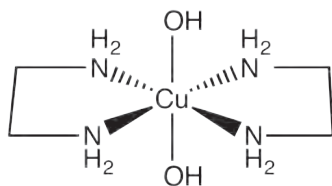


assay (iodometric) . . . . . min. 99,0 % identity (IR-spectrum) . . . . . passes test insoluble matter . . . . . max. 0,01 % pH (5 %, H <sub>2</sub> O) . . . . . 3,0 - 3,8 nitrates (NO <sub>3</sub> ) . . . . . max. 0,015 % sulfates (SO <sub>4</sub> ) . . . . . max. 0,005 % arsenic (As) . . . . . max. 1 ppm	calcium (Ca) . . . . . max. 0,005 % iron (Fe) . . . . . max. 0,003 % lead (Pb) . . . . . max. 0,004 % nickel (Ni) . . . . . max. 0,001 % potassium (K) . . . . . max. 0,01 % sodium (Na) . . . . . max. 0,02 %
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ART. NO.	VOLUME	CONTAINER
CO01120100	100 g	Ⓟ
CO01121000	1 kg	Ⓟ
CO0112005P	5 kg	Ⓟ

## COPPER(II) ETHYLENEDIAMINE SOLUTION

RE0008 Copper(II) ethylenediamine solution, for determination of viscosity in cellulose according to DIN 54270



- $[\text{Cu}(\text{OH})_2(\text{C}_2\text{H}_8\text{N}_2)_2]$
- CAS [14552-35-3]
- EINECS-No.: 238-597-7
- Density: 1,10 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 750 mg/kg (pure substance)
- ADR: 8 CT1 II UN 1761
- IMDG: 8 II UN 1761
- IATA/ICAO: 8 II UN 1761
- GHS-signal word: Danger
- GHS-H sentences: H331 - H334 - H314 - H302 - H317 - H411
- GHS-P sentences: P260 - P285 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2942 00 00 00
- Applications: for determination of viscosity in cellulose.
- Appearance: Dark blue liquid

copper (Cu) ..... 1,00 mol/l  
relation ethylenediamine/copper ..... 1,96 - 2,04

ART. NO.	VOLUME	CONTAINER
RE00081000	1 l	0

## COPPER(II) HYDROXIDE CARBONATE

CO0088 Copper(II) hydroxide carbonate, EssentQ®



- Synonyms: Copper(II) carbonate hydroxide, Copper(II) carbonate basic
- $\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$
- M = 221,20 g/mol
- CAS [12069-69-1]
- EINECS-No.: 235-113-6
- Solub. in water: (20 °C): insoluble
- Melting point: 200 °C
- LD 50 (oral, rat): 1350 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2836 99 11 00

- Applications: in pyrotechnics, in galvanotechnia, for the synthesis of: copper salts.

assay (iodometric) ..... min. 95 %  
chlorides (Cl) ..... max. 0,01 %  
sulfates ( $\text{SO}_4$ ) ..... max. 0,05 %  
iron (Fe) ..... max. 0,02 %  
lead (Pb) ..... max. 0,01 %  
sodium (Na) ..... max. 0,5 %  
nickel (Ni) ..... max. 0,05 %  
zinc (Zn) ..... max. 0,01 %  
non precipitable with  $\text{H}_2\text{S}$  (as  $\text{SO}_4$ ) ..... max. 1 %

ART. NO.	VOLUME	CONTAINER
CO00880500	500 g	0
CO00881000	1 kg	0

## COPPER(II) NITRATE TRIHYDRATE

- Synonyms: Copper dinitrate trihydrate
- $\text{Cu}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}$
- M = 241,60 g/mol
- CAS [10031-43-3]
- EINECS-No.: 221-838-5
- Solub. in water: (20 °C): soluble
- Melting point: ~ 114 °C

- LD 50 (oral, rat): 940 mg/kg
- ADR: 5.1 O2 II UN 1477
- IMDG: 5.1 II UN 1477
- IATA/ICAO: 5.1 II UN 1477
- GHS-signal word: Danger
- GHS-H sentences: H272 - H400 - H410 - H302 - H315 - H319

- GHS-P sentences: P221 - P210 - P220 - P305 + P351 + P338 - P321 - P501a
- Tariff number: 2834 29 40 00
- Applications: analytical chemistry, in galvanotechnia, spraying reagent in thin layer chromatography, in porcelain industry (colouring agent).
- Appearance: Blue crystals

CO0098 Copper(II) nitrate trihydrate, EssentQ®



assay (iodometric) ..... 98 - 103 %  
insoluble in water ..... max. 0,025 %  
pH (5 %,  $\text{H}_2\text{O}$ ) ..... min. 2,8  
chlorides (Cl) ..... max. 0,003 %  
sulfates ( $\text{SO}_4$ ) ..... max. 0,01 %  
arsenic (As) ..... max. 0,0001 %

calcium (Ca) ..... max. 0,05 %  
iron (Fe) ..... max. 0,01 %  
lead (Pb) ..... max. 0,005 %  
magnesium (Mg) ..... max. 0,01 %  
nickel (Ni) ..... max. 0,05 %  
non precipitable with  $\text{H}_2\text{S}$  (as  $\text{SO}_4$ ) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
CO00980500	500 g	0
CO00981000	1 kg	0
CO0098005P	5 kg	0

CO0091 Copper(II) nitrate trihydrate, ExpertQ®, for analysis



assay (iodometric) ..... min. 99,5 %  
chlorides (Cl) ..... max. 0,0005 %  
sulfates ( $\text{SO}_4$ ) ..... max. 0,005 %  
calcium (Ca) ..... max. 0,005 %  
iron (Fe) ..... max. 0,002 %  
lead (Pb) ..... max. 0,001 %  
nickel (Ni) ..... max. 0,001 %

potassium (K) ..... max. 0,01 %  
sodium (Na) ..... max. 0,01 %  
zinc (Zn) ..... max. 0,001 %

ART. NO.	VOLUME	CONTAINER
CO00910500	500 g	0
CO00911000	1 kg	0
CO0091005P	5 kg	0
CO0091025P	25 kg	0



## COPPER(II) OXIDE

CO0099 Copper(II) oxide, EssentQ®



- Synonyms: Copper monoxide
- CuO
- M = 79,55 g/mol
- CAS [1317-38-0]
- EINECS-No.: 215-269-1
- Solub. in water: (20 °C): insoluble
- Melting point: 1336 °C
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2825 50 00 10
- Applications: analytical chemistry, catalyst (synthesis of organic products), in pyrotechnics, in porcelain industry, in galvanotechnia.

assay (complexometric) . . . . . min. 96 %  
 insoluble in HCl . . . . . max. 0,05 %  
 nitrogen compounds (as N) . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,05 %  
 iron (Fe) . . . . . max. 0,05 %  
 total sulphur (as SO<sub>4</sub>) . . . . . max. 0,1 %  
 non precipitable with H<sub>2</sub>S (as SO<sub>4</sub>) . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
CO00990500	500 g	P
CO00991000	1 kg	P
CO0099005P	5 kg	P
CO0099025P	25 kg	P

## COPPER(II) SULFATE ANHYDROUS

CO0087 Copper(II) sulfate anhydrous, extra pure, Pharmpur®, Ph Eur, BP, USP



- Synonyms: Copper monosulfate anhydrous, Copper vitriol anhydrous
- CuSO<sub>4</sub>
- M = 159,60 g/mol
- CAS [7758-98-7]
- EINECS-No.: 231-847-6
- Solub. in water: (20 °C): 203 g/l
- LD 50 (oral, rat): 300 mg/kg
- EC-Index-No.: 029-004-00-0
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning
- GHS-H sentences: H400 - H410 - H302 - H315 - H319
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 2833 25 00 00
- Applications: analytical chemistry, for the detection of: water, in pharma industry.

assay (iodometric, on dried sample) . . . . . 99,0 - 100,5%  
 identification . . . . . passes test  
 appearance of solution . . . . . clear  
 chlorides (Cl) . . . . . max. 150 ppm  
 calcium (Ca) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,003 %  
 lead (Pb) . . . . . max. 80 ppm  
 nickel (Ni) . . . . . max. 0,005 %  
 potassium (K) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,02 %  
 loss on drying (250°C) . . . . . max. 1,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CO00870250	250 g	P
CO00871000	1 kg	P
CO0087005P	5 kg	P
CO0087025P	25 kg	P

## COPPER(II) SULFATE PENTAHYDRATE

- Synonyms: Copper monosulfate pentahydrate, Copper vitriol pentahydrate
- CuSO<sub>4</sub>·5H<sub>2</sub>O
- M = 249,68 g/mol
- CAS [7758-99-8]
- EINECS-No.: 231-847-6
- Solub. in water: (20 °C): ~ 317 g/l

- LD 50 (oral, rat): 300 mg/kg (anhydrous substance)
- EC-Index-No.: 029-004-00-0
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning

- GHS-H sentences: H400 - H410 - H302 - H315 - H319
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 2833 25 00 00
- Applications: analytical chemistry, nitrogen determinations.

CO0096 Copper(II) sulfate pentahydrate, extra pure, Pharmpur®, Ph Eur, BP, USP



assay (iodometric) . . . . . 99,0 - 101,0 %  
 assay (iodometric, on dried sample) . . . . . 98,5 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 chlorides (Cl) . . . . . max. 100 ppm  
 calcium (Ca) . . . . . max 0,005 %  
 iron (Fe) . . . . . max. 0,003 %  
 lead (Pb) . . . . . max. 50 ppm

nickel (Ni) . . . . . max. 0,005 %  
 potassium (K) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,02 %  
 loss on drying (250 °C) . . . . . 35,0 - 36,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CO00960500	500 g	P
CO00961000	1 kg	P
CO0096005P	5 kg	P
CO0096025P	25 kg	P

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

CO0101 Copper(II) sulfate pentahydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (iodometric) . . . . .	99 - 100,5 %	cobalt (Co) . . . . .	max. 0,001 %
insoluble matter . . . . .	max. 0,005 %	iron (Fe) . . . . .	max. 0,003 %
pH (5 %, H <sub>2</sub> O) . . . . .	3,7 - 4,5	lead (Pb) . . . . .	max. 0,005 %
chlorides (Cl) . . . . .	max. 0,0005 %	magnesium (Mg) . . . . .	max. 5 ppm
total nitrogen (as N) . . . . .	max. 0,001 %	nickel (Ni) . . . . .	max. 0,005 %
arsenic (As) . . . . .	max. 0,5 ppm	potassium (K) . . . . .	max. 0,001 %
cadmium (Cd) . . . . .	max. 0,001 %	sodium (Na) . . . . .	max. 0,005 %
calcium (Ca) . . . . .	max. 0,005 %	zinc (Zn) . . . . .	max. 0,03 %

ART. NO.	VOLUME	CONTAINER
CO01010500	500 g	
CO01011000	1 kg	
CO0101005P	5 kg	
CO0101025P	25 kg	

## COPPER(II) SULFATE, VOLUMETRIC SOLUTIONS

CO0102 Copper(II) sulfate, solution 0,1 mol/l

- CuSO<sub>4</sub>
- M = 159,60 g/mol
- CAS [7758-98-7]
- EINECS-No.: 231-847-6
- Density: 1,02 g/cm<sup>3</sup>
- EC-Index-No.: 029-004-00-0
- GHS-H sentences: H412
- GHS-P sentences: P273 - P501a
- Tariff number: 2833 25 00 00
- Applications: analytical chemistry, fungicide.

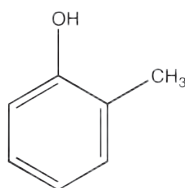
factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,024968 g CuSO<sub>4</sub>·5H<sub>2</sub>O  
 This volumetric solution was checked by means of potentiometric methods using an EDTA disodium salt standard solution, that was also checked against Scharlab's calcium carbonate volumetric standard.

Scharlab's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
CO01021000	1 l	

## o-CRESOL

CR0062 o-Cresol, EssentQ®



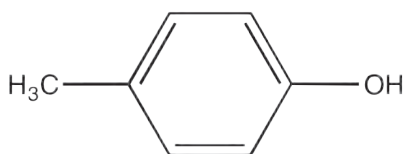
- Synonyms: 2-Methylphenol, 2-Hydroxytoluene
- C<sub>7</sub>H<sub>8</sub>O
- M = 108,14 g/mol
- CAS [95-48-7]
- EINECS-No.: 202-423-8
- Density: 1,04 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 20 g/l
- Melting point: 29 - 31 °C
- Boiling point: 191 °C
- Flash pt. 81 °C
- Ignition temp.: 555 °C
- Vapour pressure: (20 °C) 0,35 hPa
- Refraction index: (n 20 °C/D) 1,553
- LD 50 (oral, rat): 121 mg/kg
- EC-Index-No.: 604-004-00-9 [2]
- ADR: 6.1 TC2 II UN 3455
- IMDG: 6.1 II UN 3455
- IATA/ICAO: 6.1 II UN 3455
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2907 12 00 10
- Applications: synthesis of organic products, manufacturing of synthetic resins, disinfectant, fumigant, solvents.
- Appearance: Crystals

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 residue on ignition . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
CR00620250	250 g	
CR00621000	1 kg	

## p-CRESOL

CR0082 p-Cresol, EssentQ®



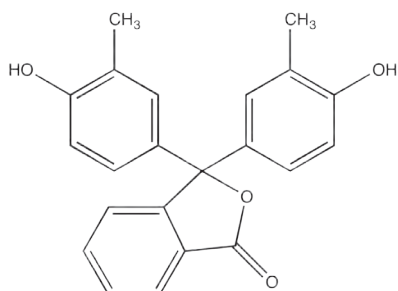
- Synonyms: 4-Methylphenol, 4-Hydroxytoluene
- C<sub>7</sub>H<sub>8</sub>O
- M = 108,14 g/mol
- CAS [106-44-5]
- EINECS-No.: 203-398-6
- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 20 g/l
- Melting point: 31 - 34 °C
- Boiling point: 202 °C
- Flash pt. 86 °C
- Ignition temp.: 555 °C
- Vapour pressure: (20 °C) 0,15 hPa
- LD 50 (oral, rat): 207 mg/kg
- EC-Index-No.: 604-004-00-9 [3]
- ADR: 6.1 TC2 II UN 3455
- IMDG: 6.1 II UN 3455
- IATA/ICAO: 6.1 II UN 3455
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2907 12 00 91
- Applications: synthesis of organic products, manufacturing of synthetic resins, disinfectant, fumigant, solvents.

assay (G.C.) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,05%

ART. NO.	VOLUME	CONTAINER
CR00820250	250 g	0

## o-CRESOLPHTHALEIN

CR0095 o-Cresolphthalein, indicator



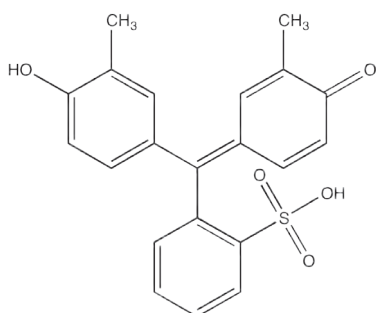
- Synonyms: 3,3-Bis(4-hydroxy-3-methylphenyl)-1(3H)-isobenzofuranone
- C<sub>22</sub>H<sub>18</sub>O<sub>4</sub>
- M = 346,38 g/mol
- CAS [596-27-0]
- EINECS-No.: 209-881-8
- Solub. in water: (20 °C): slightly soluble
- Melting point: 223 - 225 °C
- Tariff number: 2932 20 90 90
- Applications: laboratory reagent, indicator.

pH range (colourless to red) . . . . . 8,2 - 9,8  
insoluble in C<sub>2</sub>H<sub>5</sub>OH . . . . . passes test  
Absorption maximum λ (pH =11,3) . . . . . 565 - 569 nm  
Absorptivity (A1%/1 cm; λ max.) . . . . . >1500  
related substances (TLC) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
CR00950025	25 g	0

## CRESOL RED

RO0110 Cresol red, indicator



- Synonyms: o-Cresolsulphonphthalein
- C<sub>21</sub>H<sub>18</sub>O<sub>5</sub>S
- M = 382,44 g/mol
- CAS [1733-12-6]
- EINECS-No.: 217-064-2
- Solub. in water: (20 °C): slightly soluble
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, indicator (to fit pH of the reaction media).

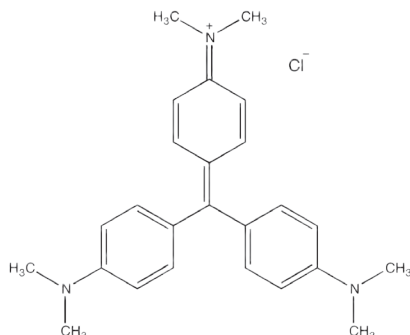
pH range (brown-orange to yellow) . . . . . 0,5 - 2,5  
ph range (brown-yellow to red-violet) . . . . . 6,5 - 8,5  
sensitivity test . . . . . passes test  
loss on drying (110 °C) . . . . . max. 5,0 %

ART. NO.	VOLUME	CONTAINER
RO01100005	5 g	0
RO01100010	10 g	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## CRYSTAL VIOLET, C.I. 42555

VI0025 Crystal violet, C.I. 42555, indicator, EssentQ®



- Synonyms: Hexamethylenepararosaniline chloride, Hexamethyl-p-rosanilinium chloride, Methyl violet 10 B
- $C_{25}H_{30}ClN_3$
- $M = 407,99 \text{ g/mol}$
- CAS [548-62-9]
- EINECS-No.: 208-953-6
- Solub. in water: (20 °C): 10 g/l
- Melting point: 189 - 194 °C
- LD 50 (oral, rat): 420 mg/kg
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Danger
- GHS-H sentences: H318 - H351 - H400 - H410 - H302
- GHS-P sentences: P280 - P281 - P273 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3204 13 00 90

- Applications: analytical chemistry, microscopy, indicator.
- dye content (spectrophotometric) . . . . . min. 85 %
- Absorption maximum  $\lambda_{\text{max}}$  (in  $H_2O$ ) . . . . . 589 - 594 nm
- Absorptivity (A 1%/1 cm;  $\lambda_{\text{max}}$ ; 0,002 g/l;  $H_2O$ ) . . . . . 2000 - 2450
- loss on drying . . . . . max. 10 %
- suitability as indicator in
- TLC test . . . . . passes test
- non-aqueous solvents . . . . . passes test

ART. NO.	VOLUME	CONTAINER
VI00250025	25 g	0
VI00250100	100 g	0

## CRYSTAL VIOLET OXALATE, SOLUTION ACCORDING TO GRAM HÜCKER

VI0027 Crystal violet oxalate, solution according to Gram Hücker

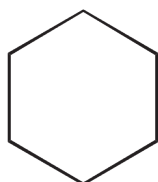


- Density: 0,980 g/cm<sup>3</sup>
- GHS-signal word: Warning
- GHS-H sentences: H226 - H351 - H319 - H412
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: microscopy, bacterium staining.

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
VI0027G100	100 ml	0
VI0027O500	500 ml	0
VI00271000	1 l	0

## CYCLOHEXANE



- Synonyms: Hexahydrobenzene, Hexamethylene, Naphthene
- $C_6H_{12}$
- $M = 84,16 \text{ g/mol}$
- CAS [110-82-7]
- EINECS-No.: 203-806-2
- Density: 0,78 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 55 mg/l
- Melting point: 6 °C
- Boiling point: 80,7 - 81 °C
- Flash pt. -18 °C
- Ignition temp.: 260 °C
- Vapour pressure: (20 °C) 103 hPa
- Refraction index: (n 20 °C/D) 1,4264

- Dielectric const.: (20 °C) 2,0
- LD 50 (oral, rat): 12705 mg/kg
- EC-Index-No.: 601-017-00-1
- ADR: 3 F1 II UN 1145
- IMDG: 3 II UN 1145
- IATA/ICAO: 3 II UN 1145
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H400 - H410 - H315 - H336
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P321 - P405 - P501a
- Tariff number: 2902 11 00 00
- Applications: solvents, analytical chemistry, synthesis of organic products.

CI0031 Cyclohexane, EssentQ®



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,776 - 0,780  
 acidity . . . . . max. 0,001 meq/g  
 copper (Cu) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm

nickel (Ni) . . . . . max. 0,2 ppm  
 cyclohexene (G.C.) . . . . . max. 0,05 %  
 aromatic hydrocarbons (as  $C_6H_6$ ) . . . . . max. 0,05 %  
 sulfur compounds (as S) . . . . . max. 0,005 %  
 substances darkened by  $H_2SO_4$  . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
CI00311000	1 l	0
CI00312500	2,5 l	0
CI0031005L	5 l	0
CI0031025A	25 l	0

## CI0032 Cyclohexane, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,7 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,776 - 0,780  
 density (20°/20°) . . . . . 0,779 - 0,781  
 colour (Hazen) . . . . . max. 10  
 appearance . . . . . clear  
 boiling point . . . . . -80 - 81 °C  
 melting point . . . . . min. 6,0 °C  
 acidity . . . . . max. 0,0003 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) . . . . . max. 0,05 %  
 cyclohexene (G.C.) . . . . . max. 0,05 %  
 ethanol (G.C.) . . . . . max. 0,01 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
CI00321000	1 l	0
CI00322500	2,5 l	0
CI0032005L	5 l	0
CI0032025A	25 l	0

## CI0039 Cyclohexane, Multisolvant® HPLC grade ACS ISO UV-VIS



assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,776 - 0,780  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0003 meq/g  
 melting point . . . . . min. 6,0 °C  
 aluminium (Al) . . . . . max. 0,1 ppm  
 barium (Ba) . . . . . max. 0,01 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,3 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,02 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm

tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,01 ppm  
 aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) . . . . . max. 0,001 %  
 cyclohexene (G.C.) . . . . . max. 0,05 %  
 ethanol (G.C.) . . . . . max. 0,01 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0002 %  
 water (K.F.) . . . . . max. 0,01 %  
 liquid chromatography suitability  
 absorbance . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A(AU)  
 208 nm . . . . . 20 % 0,699 AU  
 223 nm . . . . . 50 % 0,301 AU  
 232 nm . . . . . 80 % 0,097 AU  
 240 nm . . . . . 90 % 0,046 AU  
 250 nm . . . . . 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
CI00391000	1 l	0
CI00392500	2,5 l	0
CI00394000	4 l	0

## CI0035 Cyclohexane, for GC residue analysis



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,776 - 0,780  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,01 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 µg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
CI00351000	1 l	0
CI00352500	2,5 l	0

## CI0036 Cyclohexane, GC ultra-trace analysis grade



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,776 - 0,780  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,01 %  
 Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 µg/ml as lindane. No peaks are obtained in

vicinity of 2,4,5-trichlorobiphenyl. Suitable for highly volatile halogenated hydrocarbons trace analysis. ECD, from dichloromethane to 1,2,4-trichlorobenzene, no peaks are obtained greater than 1 ng/ml as tetrachloromethane. Suitable for pesticide and polycyclic aromatic hydrocarbons residue analysis. FID, from 1-undecanol to 1-tetradecanol, no peaks are obtained greater than 5 ng/ml as 1-tetradecanol. No peaks are obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
CI00361000	1 l	0
CI00362500	2,5 l	0

## CI0028 Cyclohexane, GC-MS



assay (G.C.) . . . . . min. 99,8 %  
 colour (Hazen) . . . . . max. 10  
 identity (IR-spectrum) . . . . . passes test  
 residue on evaporation . . . . . max. 3 ppm  
 water (K.F.) . . . . . max. 0,05%

GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n-tetradecane standard)) . . . . . max. 3,0 ng/ml (ppb)  
 Suitable for residue analysis

ART. NO.	VOLUME	CONTAINER
CI00281000	1 l	0
CI00282500	2,5 l	0

## CI0038 Cyclohexane, standard substance for GC

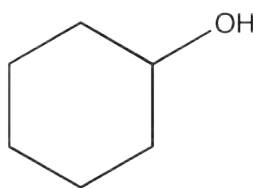


assay . . . . . 99,9%  
 over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200 °C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
CI00380005	5 ml	0



## CYCLOHEXANOL



- Synonyms: Hexahydrophenol, Hydroxycyclohexane
- $C_6H_{12}O$
- $M = 100,16 \text{ g/mol}$
- CAS [108-93-0]
- EINECS-No.: 203-630-6
- Density: (25 °C) 0,94 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 36 g/l
- Melting point: 25 °C
- Boiling point: 161 °C
- Flash pt. 68 °C
- Ignition temp.: 300 °C
- Vapour pressure: (20 °C) 1,3 hPa
- Refraction index: (n 20 °C/D) 1,4657
- Dielectric const.: (25 °C) 15,0
- LD 50 (oral, rat): 1400 mg/kg
- EC-Index-No.: 603-009-00-3
- GHS-signal word: Warning
- GHS-H sentences: H302 - H332 - H315 - H335
- GHS-P sentences: P261 - P280 - P321 - P362 - P405 - P501a
- Tariff number: 2906 12 00 00
- Applications: analytical chemistry, synthesis of organic products, insecticide, in the textile industry.

## CI0040 Cyclohexanol, EssentQ®



assay (G.C.) .....min. 99 %      water (K.F.) .....max. 0,2 %  
 identity (IR-spectrum) .....passes test  
 residue on evaporation .....max. 0,05 %

ART. NO.	VOLUME	CONTAINER
CI00401000	1 l	0

## CI0042 Cyclohexanol, ExpertQ®, for analysis

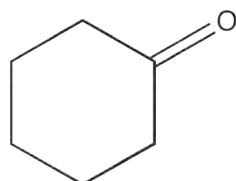


assay (G.C.) .....min.99,5 %      heavy metals (as Pb) .....max. 1 ppm  
 identity (IR-spectrum) .....passes test      residue on evaporation .....max. 0,002 %  
 free acid (as CH<sub>3</sub>COOH) .....max. 0,005 %      aldehydes .....passes test  
 iron (Fe) .....max. 1 ppm      water (K.F.) .....max. 0,05 %

ART. NO.	VOLUME	CONTAINER
CI00421000	1 l	0

## CYCLOHEXANONE

## CI0050 Cyclohexanone, EssentQ®



- Synonyms: Pimelic ketone
- $C_6H_{10}O$
- $M = 98,15 \text{ g/mol}$
- CAS [108-94-1]
- EINECS-No.: 203-631-1
- Density: 0,95 g/cm<sup>3</sup>
- Solub. in water: (20 °C): ~ 80 g/l
- Melting point: -31 °C
- Boiling point: ~ 156 °C
- Flash pt. 43°C
- Ignition temp.: 430°C
- Vapour pressure: (20°C) 4,0 hPa
- Dielectric const.: (25°C) 18,3
- LD 50 (oral, rat): 1300 - 1840 mg/kg
- EC-Index-No.: 606-010-00-7
- ADR: 3 F1 III UN 1915
- IMDG: 3 III UN 1915
- IATA/ICAO: 3 III UN 1915
- GHS-signal word: Warning
- GHS-H sentences: H226 - H332
- GHS-P sentences: P210 - P241 - P261 - P280 - P303 + P361 + P353 - P501a
- Tariff number: 2914 22 00 00
- Applications: analytical chemistry, synthesis of organic products, solvents, manufacturing of synthetic resins.
- assay (G.C.) .....min. 99,5 %
- identity (IR-spectrum) .....passes test
- density (20°/4°) .....0,945 - 0,948
- residue on ignition (as SO<sub>2</sub>) .....max. 0,001 %
- water (K.F.) .....max. 0,1 %

ART. NO.	VOLUME	CONTAINER
CI00501000	1 l	0
CI00502500	2,5 l	0
CI0050005P	5 l	P

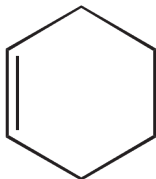
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## CYCLOHEXENE

CI0060 Cyclohexene, EssentQ®, stabilized with approx. 100 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



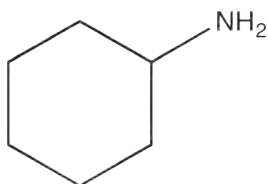
- Synonyms: 1,2,3,4-Tetrahydrobenzene
- $C_6H_{10}$
- $M = 82,15 \text{ g/mol}$
- CAS [110-83-8]
- EINECS-No.: 203-807-8
- Density:  $0,81 \text{ g/cm}^3$
- Solub. in water: (20 °C):  $0,21 \text{ g/l}$
- Melting point:  $-104 \text{ °C}$
- Boiling point:  $83 \text{ °C}$
- Flash pt.  $-16 \text{ °C}$
- Ignition temp.:  $310 \text{ °C}$
- Vapour pressure: (20 °C)  $90 \text{ hPa}$
- Refraction index: (n 20 °C/D)  $1,446$
- LD 50 (oral, rat):  $1940 \text{ mg/kg}$
- ADR: 3 F1 II UN 2256
- IMDG: 3 II UN 2256
- IATA/ICAO: 3 II UN 2256
- GHS-signal word: Danger
- GHS-H sentences: H225 - H302 - H312
- GHS-P sentences: P210 - P241 - P280 - P303 + P361 + P353 - P322 - P501a
- Tariff number: 2902 19 00 00
- Applications: synthesis of organic products.
- Appearance: Colourless clear liquid

assay (G.C.) .....min. 99 %  
identity (IR-spectrum) .....passes test  
density (20°/4°).....0,810 - 0,811  
water (K.F.).....max. 0,03 %

ART. NO.	VOLUME	CONTAINER
CI00601000	1 l	0
CI0060005P	5 l	P
CI0060025P	25 l	P

## CYCLOHEXYLAMINE

CI0070 Cyclohexylamine, EssentQ®



- Synonyms: Cyclohexanamine, Aminocyclohexane
- $C_6H_{13}N$
- $M = 99,18 \text{ g/mol}$
- CAS [108-91-8]
- EINECS-No.: 203-629-0
- Density:  $0,87 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $-18 \text{ °C}$
- Boiling point:  $133 - 134 \text{ °C}$
- Flash pt.  $27 \text{ °C}$
- Ignition temp.:  $265 \text{ °C}$
- Vapour pressure: (20 °C)  $14 \text{ hPa}$
- Refraction index: (n 20 °C/D)  $1,4580$
- LD 50 (oral, rat):  $300 \text{ mg/kg}$
- EC-Index-No.: 612-050-00-6
- ADR: 8 CF1 II UN 2357
- IMDG: 8 II UN 2357
- IATA/ICAO: 8 II UN 2357
- GHS-signal word: Danger
- GHS-H sentences: H314 - H226 - H361f - H302 - H312
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2921 30 10 00
- Applications: analytical chemistry, synthesis of organic products, in the rubber industry, manufacture of dyes, emulsifier, insecticide.

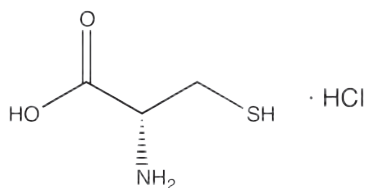
assay (G.C.) .....min. 99 %  
identity (IR-spectrum) .....passes test  
density (20°/4°).....0,866 - 0,867  
residue on evaporation .....max. 0,05 %  
water (K.F.).....max. 0,3 %

ART. NO.	VOLUME	CONTAINER
CI00701000	1 l	0



## L-CYSTEINE HYDROCHLORIDE ANHYDROUS

Cl0305 L-Cysteine hydrochloride anhydrous, EssentQ®



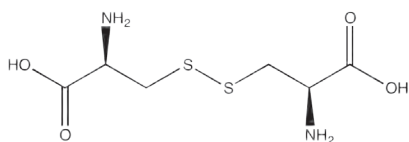
- Synonyms: Thioserine
- C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>S·HCl
- M = 157,62 g/mol
- CAS [52-89-1]
- EINECS-No.: 200-157-7
- Solub. in water: (20 °C): soluble
- Melting point: 175 - 178 °C (decomposes)
- Tariff number: 2930 90 16 00
- Applications: in biochemistry, in food industry, antioxidant.

assay (argentometric) ..... min. 98 %  
 identity (IR-spectrum) ..... passes test  
 specific rotation. ([α]<sub>D</sub><sup>20</sup>, c=1, 0,1N HCl) ..... + 4 ° - + 7 °  
 phosphates (as PO<sub>4</sub>) ..... max. 0,005 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,005 %  
 ammonium (NH<sub>4</sub>) ..... max. 0,01 %  
 arsenic (As) ..... max. 5 ppm  
 heavy metals (as Pb) ..... max. 0,001 %  
 iron (Fe) ..... max. 0,0005 %  
 residue on ignition ..... max. 0,03 %  
 loss on drying (vacuum on P<sub>2</sub>O<sub>5</sub>) ..... max. 2 %

ART. NO.	VOLUME	CONTAINER
Cl03050025	25 g	0
Cl03050100	100 g	0

## L-CYSTINE

Cl0315 L-Cystine, extra pure, Pharmapur®, Ph Eur, BP

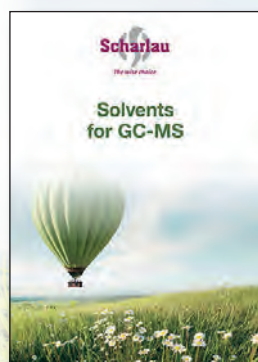


- Synonyms: Dicysteine
- C<sub>4</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>S<sub>2</sub>
- M = 240,30 g/mol
- CAS [56-89-3]
- EINECS-No.: 200-296-3
- Solub. in water: (20 °C): 0,1 - 0,2 g/l
- Melting point: 261 - 262 °C (decomposes)
- LD 50 (oral, rat): 11200 mg/kg
- Tariff number: 2930 90 13 90
- Applications: in biochemistry, synthesis of organic products, in pharma industry.

assay (bromometric, referred to dried sample) ..... 98,5 - 101,0 %  
 identification ..... passes test  
 appearance of solution ..... passes test  
 specific rotation ([α]<sub>D</sub><sup>20</sup>, c = 2, HCl, 103 g/l, on dried sample) ..... - 224 ° - - 218 °  
 chlorides (Cl) ..... max. 200 ppm  
 sulfates (SO<sub>4</sub>) ..... max. 200 ppm  
 ammonium (NH<sub>4</sub>) ..... max. 0,02 %  
 iron (Fe) ..... max. 10 ppm  
 ninhydrin-positive substances ..... passes test  
 residue on ignition ..... max. 0,1 %  
 loss on drying (105 °C) ..... max. 0,2 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
Cl03150100	100 g	0

# Solvents for GC-MS

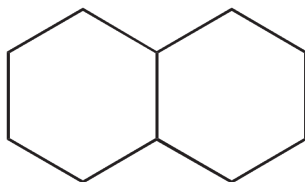


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- Chromatograms with minimal signal-to-noise ratio
- Simpler and cleaner spectra
- Wide comprehensive application area
- Saving in equipment maintenance
- Tested by GC-MS

## DECAHYDRONAPHTHALENE

DE0020 Decahydronaphthalene, mixture of isomers, EssentQ®



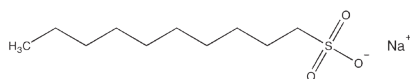
- Synonyms: Decalin
- $C_{10}H_{18}$
- $M = 138,25 \text{ g/mol}$
- CAS [91-17-8]
- EINECS-No.: 202-046-9
- Density:  $0,88 \text{ g/cm}^3$
- Solub. in water: (20 °C): non-miscible
- Melting point:  $-32 \text{ °C}$
- Boiling point:  $189 - 191 \text{ °C}$
- Flash pt.  $57 \text{ °C}$
- Ignition temp.:  $255 \text{ °C}$
- Vapour pressure: (50 °C)  $100 \text{ hPa}$
- Refraction index: (n 20 °C/D)  $1,4742$
- LD 50 (oral, rat):  $4170 \text{ mg/kg}$
- ADR: 3 F1 III UN 1147
- IMDG: 3 III UN 1147
- IATA/ICAO: 3 III UN 1147
- GHS-signal word: Danger
- GHS-H sentences: H314 - H226 - H332 - H411
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2902 19 80 00
- Applications: synthesis of organic products, analytical chemistry, manufacturing of lacquers, as gasoline additive, in lubricant compositions, solvents: Naphthalene, oils, fats, waxes and resins.

assay (G.C.) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,880 - 0,885  
residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
DE00201000	1 l	0

## 1-DECANE SULFONIC ACID, SODIUM SALT

AC0801 1-Decane sulfonic acid, sodium salt, HPLC grade



- Synonyms: Sodium 1-decylsulfonate
- $C_{10}H_{21}NaO_3S$
- $M = 244,33 \text{ g/mol}$
- CAS [13419-61-9]
- EINECS-No.: 236-525-9
- Solub. in water: (20 °C): soluble
- Melting point:  $> 300 \text{ °C}$
- Tariff number: 2904 10 00 90
- Applications: analytical chemistry, chromatography, synthesis of organic products.

assay (acidimetric) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
insoluble matter . . . . . passes test  
max. absorbance of an aqueous sol. 0,2 M in a 1 cm cell at wavelength . . . . . absorbance  
210 nm . . . . . 0,05 AU  
220 nm . . . . . 0,03 AU  
230 nm . . . . . 0,02 AU  
260 nm . . . . . 0,02 AU

ART. NO.	VOLUME	CONTAINER
AC08010025	25 g	0
AC08010100	100 g	0

## DETERLABO® , AUTOMATED WASHING

DT0001 Deterlabo® A, acid detergent, concentrated liquid for manual or machine-washing



- Density:  $1,16 \text{ g/cm}^3$
- Boiling point:  $> 100 \text{ °C}$
- Flash pt.  $> 55 \text{ °C}$
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P264 - P280 - P305 + P351 + P338 - P337 + P313 - PA26 - P234 - PTelSch
- Applications:
- Appearance: Bright transparent liquid

PROPERTIES AND APPLICATIONS: Acid detergent, concentrated liquid for laboratory use (citric acid-based) for manual washing of surfaces and labware or mechanical in glassware washers. Phosphate-free, it does not contain ingredients subjected to regulations of the biodegradability laws. The pH is 2.5 in a 1% Deterlabo A solution in deionized water. It can be used such as a pre-washing agent, rinsing additive with neutralizing effect or as calcareous wastes cleaner. DOSAGE: Automatically by means of the appropriate cuvette or manually between 15-40 ml of Deterlabo A per wash cycle. As descaling detergent should be used diluted in water between 5-20%.

CONTAINS:  
Citric acid. . . . .  $> 30 \%$   
Preservatives: Benzyl Isothiazolone; Methyl Isothiazolinone  
Appearance: Clear and colourless  
pH (1%) . . . . .  $2,5 \pm 0,5$

ART. NO.	VOLUME	CONTAINER
DT0001005P	5 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**DT0002 Deterlabo® B, alkaline detergent, concentrated liquid for machine-washing**



- Density: 1,30 g/cm<sup>3</sup>
- ADR: 8 C5 III UN 1719
- IMDG: 8 III UN 1719
- IATA/ICAO: 8 III UN 1719
- GHS-signal word: Danger
- GHS-H sentences: H302 - H314 - H373
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P310 - P405 - P501a - P102 - PA26 - P234 - PTeSch
- Appearance: Bright transparent liquid

**PROPERTIES AND APPLICATIONS:** Alkaline detergent, concentrated liquid with complexing agents and dispersants, surfactants-free, suitable for labware cleaning in automatic machines. Recommended for all types of waters, regardless of its hardness. Specially suitable for use in glassware washers with liquid detergent dispenser. **DOSAGE:** After prewash process (if necessary), use the product at a concentration between 0.1 - 0.4% in the machine bath at a temperature of 50 - 80 °C, with a final rinse in machine until removing alkaline residues.

**CONTAINS:**  
NaOH . . . . . 5 - 15 %  
KOH . . . . . 5 - 15 %  
Appearance: Clear, colourless to yellowish  
pH . . . . . 12,8 ± 0,5

ART. NO.	VOLUME	CONTAINER
DT0002005P	5 l	

**DT0006 Deterlabo® P, alkaline detergent, powder for machine-washing**



- ADR: 8 C10 III UN 1759
- IMDG: 8 III UN 1759
- IATA/ICAO: 8 III UN 1759
- GHS-signal word: Danger
- GHS-H sentences: H314 - H335 - H412
- GHS-P sentences: P260 - P264 - P273 - P280 - P303 + P361 + P353 - P305 + P351 + P338 - P310 - P501a - PA26 - P234 - PTeSch
- Appearance: Powder

**PROPERTIES AND APPLICATIONS:** Powder alkaline chlorinated detergent, suitable for washing of any kind of labware in glassware washers, in any conditions. It does not alter the typical materials of labware: crystal, glass, pyrex, stainless steel, porcelain, plastic, etc. **DOSAGE:** After prewash process (if necessary), use the product at a concentration between 2-6 g/L of water in the machine bath at 50 to 80 °C, with final rinse until removal of alkaline residues.

**CONTAINS:**  
NaOH and KOH . . . . . 5 - 15 %  
Appearance: White, homogeneous powder  
pH (1%) . . . . . 10,7 ± 0,5

ART. NO.	VOLUME	CONTAINER
DT0006005P	5 l	

## DETERLABO®, HAND WASHING

**DT0004 Deterlabo® N, neutral detergent, concentrated liquid for manual use**



- Density: 1,03 g/cm<sup>3</sup>
- Boiling point: > 100 °C
- Flash pt. > 55 °C
- Vapour pressure: 7,56 hPa (20°C)
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313 - P102 - PA26 - P234 - PTeSch
- Appearance: Viscous transparent liquid

**PROPERTIES AND APPLICATIONS:** Neutral pH detergent, concentrated liquid of high foaming power. Best-suited for manual cleaning of all types of equipment, tools, material and laboratory surfaces. It can be used for cleaning stainless steel, aluminium, formica, vinyl, painted or varnished surfaces, crystal, glass, pyrex, etc. **DOSAGE:** Dilute in water between 2-15 g/L. **CONTAINS:**  
Anionic surfactants . . . . . 5 - 15 %  
Non ionic surfactants . . . . . < 5 %

Preservatives: Benzyl Isothiazolone; Methyl Isothiazolone Parfum Allergens: Limonene  
Appearance: Blue and viscous  
pH . . . . . 7,0 ± 0,5

ART. NO.	VOLUME	CONTAINER
DT00041000	1 l	

**DT0005 Deterlabo® O, degreaser, concentrated liquid for surfaces**



- Density: 1,03 g/cm<sup>3</sup>
- Boiling point: > 100 °C
- Flash pt. > 55 °C
- Vapour pressure: 22,46 hPa (20°C)
- GHS-signal word: Danger
- GHS-H sentences: H302 + H332 - H315 - H318 - H412
- GHS-P sentences: P261 - P273 - P280 - P305 + P351 + P338 - P310 - P501a - PA26 - PTeSch
- Appearance: Bright transparent liquid

**PROPERTIES AND APPLICATIONS:** Degreaser, highly concentrated liquid for surfaces. Best suited for the treatment of most problems of degreasing and removal of both organic and inorganic remains from surfaces of laboratory equipment. Effective in any application such as cleaning floors (including painted), laboratory surfaces, eliminating soot, dirt and natural, mineral and synthetic fats. Applicable on all types of materials: iron, galvanized, aluminum, stainless steel, formica, marble, sandstone, granite, lacquer, Also applicable as degreaser by immersion.

**DOSAGE:**  
Dilute with water from 1:1 to 1:20 depending on the amount of dirt or grease to be removed.  
Non-ionic surfactants and glycols . . . . . 5 - 15 %  
NaOH . . . . . < 5 %  
Appearance: Clear and yellow  
pH (1%) . . . . . 11,0 ± 0,5

ART. NO.	VOLUME	CONTAINER
DT0005005P	5 l	

**DT0003 Deterlabo® H, hygienizing detergent, concentrated liquid for surfaces**



- Density: 0,99 g/cm<sup>3</sup>
- Boiling point: 107 °C
- Flash pt. 46 °C
- Vapour pressure: 20,51 hPa (20°C)
- ADR: 3 FC III UN 2924
- IMDG: 3 III UN 2924
- IATA/ICAO: 3 III UN 2924
- GHS-signal word: Danger
- GHS-H sentences: H226 - H302 + H332 - H314 - H335
- GHS-P sentences: P210 - P303 + P361 + P353 - P305 + P351 + P338 - P310 - P405 - P501a - P102 - PA26 - P234 - PTeSch
- Appearance: Bright transparent liquid

**PROPERTIES AND APPLICATIONS:** Hygienizing detergent, liquid of high concentration in active principles for hygiene by contact of surfaces, incubators, laminar flow cabinets, contaminated labware, fine chemistry, biochemistry, water treatment, analysis, food industry, etc. Free from aldehydes, azides or volatile ingredients. Contains didecylmethylammonium chloride (DDAC) as active ingredient.

**DOSAGE:**  
Between 5-20% in water depending on the substrate and amount of dirt: -Manual surface hygiene by direct spraying and/or latter rub: 50-150 cm<sup>3</sup>/l of water. Machines, pipes or containers hygiene by recirculation: 10-150 cm<sup>3</sup>/l of water. -Cleaning tools in immersion bath: 50-100 cm<sup>3</sup>/l of water.

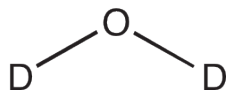
**CONTAINS:**  
Didecylmethylammonium chloride . . . . . 5 - 15 %  
Aliphatic alcohol . . . . . 5 - 15 %  
Non-ionic surfactants and EDTA . . . . . < 5 %  
Appearance: Clear and blue  
pH . . . . . 11,0 ± 1,0

ART. NO.	VOLUME	CONTAINER
DT0003005P	5 l	



## DEUTERIUM OXIDE

DE0037 Deuterium oxide, deuteration degree min. 99,8%, NMR spectroscopy grade, Spectrosol®



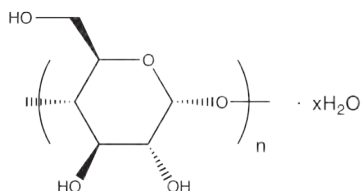
- Synonyms: Heavy water
- D<sub>2</sub>O
- M = 20,03 g/mol
- CAS [7789-20-0]
- EINECS-No.: 232-148-9
- Density: 1,11 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 3,8 °C
- Boiling point: 101 °C
- Tariff number: 2845 10 00 00
- Applications: for nuclear magnetic resonance spectroscopy, for nuclear reactions.

deuteration degree . . . . . min. 99,8 %  
performance test (NMR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
DE00370010	10 ml	⓪
DE00370100	100 ml	⓪

## DEXTRIN WHITE

DE0040 Dextrin white, extra pure, Pharmapur®, Ph Eur



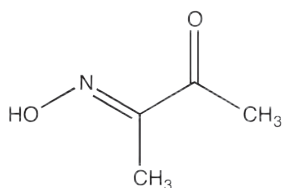
- (C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>)<sub>n</sub> · xH<sub>2</sub>O
- CAS [9004-53-9]
- EINECS-No.: 232-675-4
- Solub. in water: (20 °C): ~ 50 g/l
- Tariff number: 3505 10 10 00
- Applications: desiccant, emulsifier, manufacture of dyes, in explosive compositions, in pharma industry.

identification . . . . . passes test  
pH (5 %, H<sub>2</sub>O) . . . . . 2,0 - 8,0  
chlorides (Cl) . . . . . max. 0,2 %  
reducing sugars (as glucose) . . . . . max. 10 %  
residue on ignition . . . . . max. 0,5 %  
loss on drying (135 °C) . . . . . max. 13,0 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
DE00401000	1 kg	⓪
DE0040025P	25 kg	⓪

## DIACETYLMOXIME

DI0030 Diacetylmonoxime, ExpertQ®, for analysis



- C<sub>4</sub>H<sub>7</sub>NO<sub>2</sub>
- M = 101,11 g/mol
- CAS [57-71-6]
- EINECS-No.: 200-348-5
- Solub. in water: (20 °C): soluble
- Melting point: 74 - 76 °C
- Boiling point: 185 - 186 °C
- Tariff number: 2928 00 90 90
- Applications: analytical chemistry, for spectrophotometric determinations, for gravimetric determinations (for determination of: nickel).

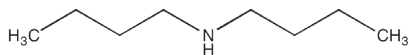
assay (DSC) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in C<sub>2</sub>H<sub>5</sub>OH . . . . . passes test  
insoluble in water . . . . . passes test  
sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
copper (Cu) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,001 %  
lead (Pb) . . . . . max. 0,001 %  
nickel (Ni) . . . . . max. 0,001 %  
sensitivity to urea . . . . . passes test  
residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
DI00300100	100 g	⓪

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## DIBUTYLAMINE

DI0300 Dibutylamine, EssentQ®



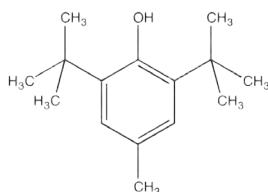
- Synonyms: N-Butyl-1-butanamine
- $C_8H_{19}N$
- $M = 129,25$  g/mol
- CAS [111-92-2]
- EINECS-No.: 203-921-8
- Density:  $0,76$  g/cm<sup>3</sup>
- Solub. in water: (25 °C):  $4,05$  g/l
- Melting point:  $-62$  °C
- Boiling point:  $160 - 162$  °C
- Flash pt.  $39$  °C
- Ignition temp.:  $260$  °C
- Vapour pressure: (20 °C)  $2$  hPa
- Refraction index: (n 20 °C/D)  $1,4168$
- LD 50 (oral, rat):  $189$  mg/kg
- EC-Index-No.: 612-049-00-0 [1]
- ADR: 8 CF1 II UN 2248
- IMDG: 8 II UN 2248
- IATA/ICAO: 8 II UN 2248
- GHS-signal word: Warning
- GHS-H sentences: H226 - H302 - H312 - H332
- GHS-P sentences: P210 - P241 - P261 - P280 - P303 + P361 + P533 - P501a
- Tariff number: 2921 19 80 90
- Applications: analytical chemistry, chromatography, synthesis of organic products.
- Appearance: Clear liquid

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . .  $0,758 - 0,760$   
 residue on evaporation . . . . . max.  $0,005$  %  
 water (K.F.) . . . . . max.  $0,2$  %

ART. NO.	VOLUME	CONTAINER
DI03001000	1 l	0
DI03002500	2,5 l	0

## 2,6-DI-TERT-BUTYL-4-METHYLPHENOL

DI0315 2,6-Di-tert-butyl-4-methylphenol, EssentQ®



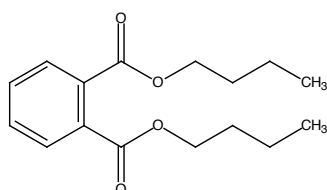
- Synonyms: 2,6-Di-tert-butyl-p-cresol, BHT, Butylhydroxytoluene, Ionol
- $C_{15}H_{20}O$
- $M = 220,36$  g/mol
- CAS [128-37-0]
- EINECS-No.: 204-881-4
- Solub. in water: (20 °C):  $< 0,01$  g/l
- Melting point:  $69 - 70$  °C
- Boiling point:  $265$  °C
- Flash pt.  $127$  °C
- Ignition temp.:  $345$  °C
- Vapour pressure: (20 °C)  $0,02$  hPa
- LD 50 (oral, rat):  $890$  mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319 - H413
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 2907 19 00 90
- Applications: analytical chemistry, oxidizing agent.

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 arsenic (As) . . . . . max. 3 ppm  
 heavy metals (as Pb) . . . . . max.  $0,001$  %  
 iron (Fe) . . . . . max. 5 ppm  
 residue on ignition . . . . . max.  $0,005$  %

ART. NO.	VOLUME	CONTAINER
DI03150250	250 g	0
DI03150500	500 g	0
DI03151000	1 kg	0

## DIBUTYL PHTHALATE

FT0035 Dibutyl phthalate, EssentQ®



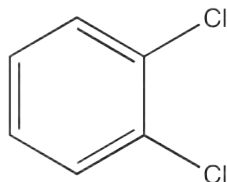
- Synonyms: Phthalic acid dibutyl ester, DBP
- $C_{16}H_{22}O_4$
- $M = 278,35$  g/mol
- CAS [84-74-2]
- EINECS-No.: 201-557-4
- Density:  $1,05$  g/cm<sup>3</sup>
- Solub. in water: (20 °C):  $0,4$  g/l
- Boiling point:  $\sim 340$  °C
- Flash pt.  $171$  °C
- Ignition temp.:  $\sim 370$  °C
- LD 50 (oral, rat):  $8000$  mg/kg
- ADR: 9 M6 III UN 3082
- IMDG: 9 III UN 3082
- IATA/ICAO: 9 III UN 3082
- GHS-signal word: Danger
- GHS-H sentences: H360Df - H400
- GHS-P sentences: P281 - P273 - P308 + P313 - P391 - P405 - P501a
- Tariff number: 2917 31 00 00
- Applications: synthesis of organic products, insect repellent.
- Appearance: Colourless to yellowish liquid

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . .  $1,045 - 1,048$   
 residue on ignition . . . . . max.  $0,01$  %

ART. NO.	VOLUME	CONTAINER
FT00351000	1 l	0
FT0035025P	25 l	0

## 1,2-DICHLOROBENZENE

DI0382 1,2-Dichlorobenzene, EssentQ®

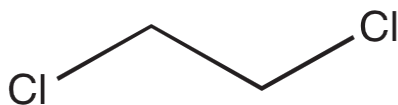


- Synonyms: o-Chlorobenzene
- $C_6H_4Cl_2$
- $M = 147,00 \text{ g/mol}$
- CAS [95-50-1]
- EINECS-No.: 202-425-9
- Density:  $1,31 \text{ g/cm}^3$
- Solub. in water: (20 °C): ~ 0,13 g/l
- Melting point: -17 °C
- Boiling point: 180 °C
- Flash pt. 66 °C
- Ignition temp.: 640 °C
- Vapour pressure: (20 °C) ~ 1,3 hPa
- Dielectric const.: (25 °C) 9,9
- EC-Index-No.: 602-034-00-7
- ADR: 6.1 T1 III UN 1591
- IMDG: 6.1 III UN 1591
- IATA/ICAO: 6.1 III UN 1591
- GHS-signal word: Warning
- GHS-H sentences: H400 - H410 - H302 - H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2903 91 00 00
- Applications: solvents, degreasing agent, manufacture of dyes.

assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,305 - 1,307  
residue on ignition . . . . . max. 0,05 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
DI03821000	1 l	0
DI03822500	2,5 l	0
DI0382005P	5 l	0

## 1,2-DICHLOROETHANE



- Synonyms: Ethylene chloride, Ethylene dichloride
- $C_2H_4Cl_2$
- $M = 98,97 \text{ g/mol}$
- CAS [107-06-2]
- EINECS-No.: 203-458-1
- Density:  $1,25 \text{ g/cm}^3$
- Solub. in water: (20 °C): 0,80 g/l
- Melting point: -35,5 °C
- Boiling point: 83,5 - 84,1 °C
- Flash pt. 13 °C
- Ignition temp.: 412,6 - 440 °C
- Vapour pressure: (20 °C) 87 hPa
- LD 50 (oral, rat): 670 mg/kg

- EC-Index-No.: 602-012-00-7
- ADR: 3 FT1 II UN 1184
- IMDG: 3 II UN 1184
- IATA/ICAO: 3 II UN 1184
- GHS-signal word: Danger
- GHS-H sentences: H225 - H350 - H302 - H315 - H319 - H335 -
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2903 15 00 00
- Applications: solvents, synthesis of organic products, fumigant.

DI0407 1,2-Dichloroethane, ExpertQ®, for analysis, ACS



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,246 - 1,255  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0003 meq/g  
free chlorine (as Cl) . . . . . max. 0,00003 %  
aluminium (Al) . . . . . max. 0,05 ppm  
barium (Ba) . . . . . max. 0,05 ppm  
cadmium (Cd) . . . . . max. 0,02 ppm  
calcium (Ca) . . . . . max. 0,2 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,02 ppm  
magnesium (Mg) . . . . . max. 0,05 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
potassium (K) . . . . . max. 0,2 ppm  
sodium (Na) . . . . . max. 0,5 ppm  
strontium (Sr) . . . . . max. 0,02 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
substances darkened by  $H_2SO_4$  . . . . . passes test  
residue on evaporation . . . . . max. 0,002 %  
water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
DI04071000	1 l	0
DI04072500	2,5 l	0

DI0409 1,2-Dichloroethane, HPLC grade



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,246 - 1,255  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
residue on evaporation . . . . . max. 0,0002 %  
water (K.F.) . . . . . max. 0,01 %

min. transmission/max. absorbance in a 1,0 cm cell at wavelength  
230 nm . . . . . T(%) A (AU) .20 % 0,699 AU  
235 nm . . . . . .50 % 0,301 AU  
245 nm . . . . . .90 % 0,046 AU  
Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
DI04091000	1 l	0
DI04092500	2,5 l	0

DI0412 1,2-Dichloroethane, standard substance for GC



assay . . . . . 99,9%  
over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200°C  
identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
DI04120005	5 ml	0

## DI0411 1,2-Dichloroethane, 99,5%, anhydrous (max. 0,005% H<sub>2</sub>O)



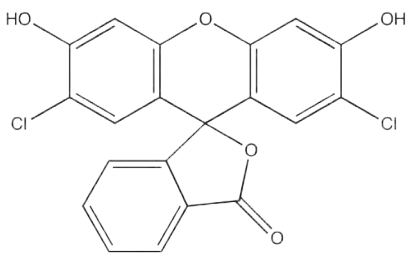
assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,246 - 1,255  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0003 meq/g  
 free chlorine (as Cl) . . . . . max. 0,00003 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 barium (Ba) . . . . . max. 0,05 ppm  
 cadmium (Cd) . . . . . max. 0,02 ppm  
 calcium (Ca) . . . . . max. 0,2 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,02 ppm  
 magnesium (Mg) . . . . . max. 0,05 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 potassium (K) . . . . . max. 0,2 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
DI04110100	100 ml	

## 2',7'-DICHLOROFLORESCEIN

### DI0425 2',7'-Dichlorofluorescein, indicator

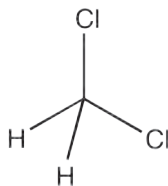


- Synonyms: 2',7'-Dichloro-3',6'-dihydroxyspiro [isobenzofuran-1(3H),9'-[9H]xanthen]-3-one
- C<sub>20</sub>H<sub>10</sub>Cl<sub>2</sub>O<sub>5</sub>
- M = 401,21 g/mol
- CAS [76-54-0]
- EINECS-No.: 200-968-6
- Solub. in water: (20 °C): slightly soluble
- Tariff number: 3204 90 00 00
- Applications: analytical chemistry, for microbiology.

suitability as fluorescence indicator. . . . . passes test

ART. NO.	VOLUME	CONTAINER
DI04250005	5 g	

## DICHLOROMETHANE



- Synonyms: Methylene chloride, Chloromethylene
- CH<sub>2</sub>Cl<sub>2</sub>
- M = 84,93 g/mol
- CAS [75-09-2]
- EINECS-No.: 200-838-9
- Density: 1,32 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 20 g/l
- Melting point: ~ -95 °C
- Boiling point: 40 °C
- Ignition temp.: 605 °C
- Vapour pressure: (20 °C) 475 hPa
- Dielectric const.: (20 °C) 9,1

- LD 50 (oral, rat): 1600 mg/kg
- EC-Index-No.: 602-004-00-3
- ADR: 6.1 T1 III UN 1593
- IMDG: 6.1 III UN 1593
- IATA/ICAO: 6.1 III UN 1593
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335 - H336 - H351 - H373 -
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2903 12 00 00
- Applications: solvents, analytical chemistry.

### CL0329 Dichloromethane, EssentQ®, stabilized with approx. 50 ppm of amylene



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 1,320 - 1,332  
 residue on evaporation . . . . . max. 0,003 %  
 water (K.F.) . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
CL03291000	1 l	
CL03292500	2,5 l	
CL0329005P	5 l	
CL0329020S	20 l	
CL0329025B	25 l	

ART. NO.	VOLUME	CONTAINER
CL0329025L	25 l	
CL0329025P	25 l	
CL0329030S	30 l	
CL0329200E	200 l	

### CL0331 Dichloromethane, extra pure, stabilized with approx. 50 ppm of amylene, Pharmpur®, Ph Eur, BP, NF



assay (G.C.) . . . . . min. 99,0 %  
 identification . . . . . passes test  
 density (20°/20°) . . . . . 1,320 - 1,332  
 density (25°/25°) . . . . . 1,318 - 1,322  
 appearance . . . . . clear and colourless  
 refractive index n<sub>20/D</sub> . . . . . 1,423 - 1,425  
 acidity . . . . . passes test  
 free chlorine . . . . . passes test  
 ethanol,2-methylbut-2-ene and  
 limit of hydrogen chloride . . . . . max. 0,001 %  
 acidity . . . . . passes test

residue on evaporation . . . . . max. 20 ppm  
 water (K.F.) . . . . . max. 0,02 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
CL03311000	1 l	
CL03312500	2,5 l	
CL0331005L	5 l	
CL0331005P	5 l	
CL0331007E	7 l	
CL0331025A	25 l	
CL0331025B	25 l	

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U  
V  
W  
X  
Y  
Z

CL0332 Dichloromethane, ExpertQ®, for analysis, stabilized with ethanol



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,323 - 1,327  
appearance . . . . . clear  
acidity . . . . . max. 0,0005 meq/g  
free chlorine (as Cl) . . . . . max. 0,00003 %  
colour (Hazen) . . . . . max. 10  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
carbon tetrachloride (G.C.) . . . . . max. 0,01 %  
chloroform (G.C.) . . . . . max. 0,01 %  
ethanol (G.C.) . . . . . max. 0,3 %  
methanol (G.C.) . . . . . max. 0,01 %  
formaldehyde . . . . . max. 0,0005 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
CL03321000	1 l	0
CL03322500	2,5 l	0
CL0332007E	7 l	0
CL0332025B	25 l	0
CL0332030S	30 l	0

CL0342 Dichloromethane, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur, stabilized with approx. 50 ppm of amylene



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,323 - 1,327  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
free chlorine (as Cl) . . . . . max. 0,00002 %  
chlorides (Cl) . . . . . max. 0,0001 %  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
molybdenum (Mo) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
carbon tetrachloride (G.C.) . . . . . max. 0,005 %  
chloroform (G.C.) . . . . . max. 0,005 %  
ethanol (G.C.) . . . . . max. 0,02 %  
methanol (G.C.) . . . . . max. 0,01 %  
formaldehyde . . . . . max. 0,0005 %  
residue on evaporation . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
CL03421000	1 l	0
CL03422500	2,5 l	0
CL0342005P	5 l	0
CL0342007E	7 l	0
CL0342025A	25 l	0
CL0342025B	25 l	0
CL0342025P	25 l	0
CL0342200L	200 l	0
CL0342030S	30 l	0

CL0338 Dichloromethane, dried (max. 0,005% H<sub>2</sub>O), ExpertQ®, for analysis, stabilized with approx. 50 ppm of amylene



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,323 - 1,327  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0005 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
free chlorine (as Cl) . . . . . max. 0,00003 %  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
carbon tetrachloride (G.C.) . . . . . max. 0,01 %  
chloroform (G.C.) . . . . . max. 0,01 %  
ethanol (G.C.) . . . . . max. 0,02 %  
methanol (G.C.) . . . . . max. 0,01 %  
formaldehyde . . . . . max. 0,0005 %  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
CL03381000	1 l	0
CL03382500	2,5 l	0

CL0347 Dichloromethane, stabilized with approx. 50 ppm of amylene, Multisolvent® HPLC grade ACS ISO UV-VIS



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,323 - 1,327  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
free chlorine (as Cl) . . . . . max. 0,00002 %  
chlorides (Cl) . . . . . max. 0,0001 %  
aluminium (Al) . . . . . max. 0,1 ppm  
barium (Ba) . . . . . max. 0,01 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,01 ppm  
calcium (Ca) . . . . . max. 0,3 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,02 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,01 ppm

nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,01 ppm  
carbon tetrachloride (G.C.) . . . . . max. 0,005 %  
chloroform (G.C.) . . . . . max. 0,005 %  
ethanol (G.C.) . . . . . max. 0,02 %  
methanol (G.C.) . . . . . max. 0,01 %  
formaldehyde . . . . . max. 0,0005 %  
residue on evaporation . . . . . max. 0,0002 %  
water (K.F.) . . . . . max. 0,01 %  
liquid chromatography suitability  
absorbance . . . . . passes test  
min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A(AU)  
235 nm . . . . . 20 % 0,699 AU  
240 nm . . . . . 50 % 0,301 AU  
245 nm . . . . . 80 % 0,097 AU  
248 nm . . . . . 90 % 0,046 AU  
255 nm . . . . . 98 % 0,009 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
CL03471000	1 l	0
CL03472500	2,5 l	0
CL03474000	4 l	0
CL0347007E	7 l	0
CL0347020S	20 l	0
CL0347025B	25 l	0
CL0347025S	25 l	0
CL0347200E	200 l	0



A  
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T  
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V  
W  
X  
Y  
Z

## CL0335 Dichloromethane, HPLC grade, stabilized with ethanol



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,323 - 1,327  
ethanol (G.C.) . . . . . max. 0,3 %  
alkalinity . . . . . max. 0,0002 meq/g  
residue on evaporation . . . . . max. 0,0003 %  
acidity . . . . . max. 0,0002 meq/g  
water (K.F.) . . . . . max. 0,01 %

min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A (AU)  
235 nm . . . . . 20 % 0,699 AU  
238 nm . . . . . 50 % 0,301 AU  
247 nm . . . . . 90 % 0,046 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
CL03351000	1 l	0
CL03352500	2,5 l	0
CL03354000	4 l	0

## CL0340 Dichloromethane, for GC residue analysis, stabilized with ethanol



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,323 - 1,327  
ethanol (G.C.) . . . . . max. 0,2 %  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,02 %

Suitable for organohalogenated pesticide and dioxins,  
furans and PCBs residue analysis. ECD,  
from 1,2,4-trichlorobenzene to decachlorobiphenyl,  
no peaks are obtained greater than 3 pg/ml as  
lindane. No peaks are obtained in vicinity of  
2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
CL03401000	1 l	0
CL03402500	2,5 l	0
CL0340007E	7 l	0

## CL0345 Dichloromethane, for GC residue analysis, stabilized with approx. 50 ppm of amylene



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,323 - 1,327  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,02 %

Suitable for organohalogenated pesticide and dioxins,  
furans and PCBs residue analysis. ECD, from 1,2,4-tri-  
chlorobenzene to decachlorobiphenyl, no peaks are  
obtained greater than 3 pg/ml as lindane. No peaks  
are obtained in vicinity of 2,4,5-trichlorobiphenyl.  
Suitable for pesticide and polycyclic aromatic  
hydrocarbons residue analysis. FID, from 1-octanol  
to 1-tetradecanol, no peaks are obtained greater than  
5 ng/ml as 1-tetradecanol. No peaks are obtained in  
vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
CL03451000	1 l	0
CL03452500	2,5 l	0

## CL0341 Dichloromethane, GC ultra-trace analysis grade, stabilized with ethanol



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,323 - 1,327  
ethanol (G.C.) . . . . . max. 0,2 %  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,02 %  
Suitable for organohalogenated pesticide and dioxins,  
furans and PCBs residue analysis. ECD, from 1,2,4-tri-  
chlorobenzene to

decachlorobiphenyl, no peaks are obtained greater  
than 3 pg/ml as lindane. No peaks are obtained in  
vicinity of 2,4,5-trichlorobiphenyl.  
Suitable for pesticide and polycyclic aromatic  
hydrocarbons residue analysis. FID, from  
1-octanol to 1-tetradecanol, no peaks are obtained  
greater than 5 ng/ml as 1-tetradecanol. No peaks are  
obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
CL03411000	1 l	0
CL03412500	2,5 l	0

## CL0346 Dichloromethane, GC-MS



assay (G.C.) . . . . . min. 99,8 %  
colour (Hazen) . . . . . max. 10  
identity (IR-spectrum) . . . . . passes test  
residue on evaporation . . . . . max. 3 ppm  
water (K.F.) . . . . . max. 0,05 %

GC/MSD (retention range n-undecane to n-tetraconta-  
ne, scanning area 30 - 600 amu, individual signals  
(n- tetradecane standard)) . . . . . max. 3,0 ng/ml (ppb)  
Suitable for residue analysis

ART. NO.	VOLUME	CONTAINER
CL03461000	1 l	0
CL03462500	2,5 l	0

## CL0330 Dichloromethane, standard substance for GC



assay . . . . . 99,8 %  
over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200 °C  
identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
CL03300005	5 ml	0

## CL0349 Dichloromethane, 99,9%, anhydrous (max. 0,003% H<sub>2</sub>O), stabilized with approx. 50 ppm of amylene



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,323 - 1,327  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
free chlorine (as Cl) . . . . . max. 0,00002 %  
chlorides (Cl) . . . . . max. 0,0001 %  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
molybdenum (Mo) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
carbon tetrachloride (G.C.) . . . . . max. 0,005 %  
chloroform (G.C.) . . . . . max. 0,005 %  
ethanol (G.C.) . . . . . max. 0,02 %  
methanol (G.C.) . . . . . max. 0,01 %  
formaldehyde . . . . . max. 0,0005 %  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
CL03490100	100 ml	0
CL03490500	500 ml	0
CL03491000	1 l	0

CL0350 Dichloromethane, 99,9%, anhydrous (max. 0,003% H<sub>2</sub>O), with molecular sieves



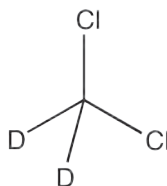
assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/20°) . . . . . 1,325 - 1,329  
acidity or alkalinity . . . . . passes test  
free chlorine . . . . . passes test  
chlorides (Cl) . . . . . max. 0,0001 %

copper (Cu) . . . . . max. 0,2 ppm  
heavy metals (as Pb) . . . . . max. 1 ppm  
iron (Fe) . . . . . max. 0,2 ppm  
lead (Pb) . . . . . max. 0,2 ppm  
nickel (Ni) . . . . . max. 0,2 ppm  
water (K.F.) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
CL03501000	1 l	0

## DICHLOROMETHANE-D2

CL0337 Dichloromethane-d2, deuteration degree min. 99,5%, NMR spectroscopy grade, Spectrosol®



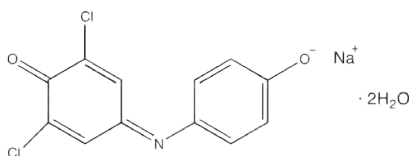
- Synonyms: Methylene chloride-d2, Dideuteromethylene chloride, Dideuterodichloromethane
- CCl<sub>2</sub>D<sub>2</sub>
- M = 86,95 g/mol
- CAS [1665-00-5]
- EINECS-No.: 216-776-0
- Density: 1,36 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 20 g/l
- Melting point: -97 °C
- Boiling point: 39 °C
- Ignition temp.: 605 °C
- Vapour pressure: (20°C) ~ 450 hPa
- LD 50 (oral, rat): 1600 mg/kg
- EC-Index-No.: 602-004-00-3
- ADR: 6.1 T1 III UN 1593
- IMDG: 6.1 III UN 1593
- IATA/ICAO: 6.1 III UN 1593
- GHS-signal word: Warning
- GHS-H sentences: H351
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2845 90 10 00
- Applications: for nuclear magnetic resonance spectroscopy.

deuteration degree . . . . . min. 99,5 %  
water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) . . . . . max. 0,03 %  
performance test (NMR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
CL03370010	10 ml	0

## 2,6-DICHLOROPHENOL-INDOPHENOL, SODIUM SALT DIHYDRATE

DI0415 2,6-Dichlorophenol-indophenol, sodium salt dihydrate, indicator, ExpertQ®, for analysis, ACS

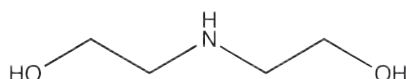


- Synonyms: 2,6-Dichloroindophenol sodium, 2,6-Dichloro-1,4-benzoquinone-4-(4-hydroxyanil) sodium
- C<sub>12</sub>H<sub>7</sub>Cl<sub>2</sub>NNaO<sub>2</sub>·2H<sub>2</sub>O
- M = 326,11 g/mol
- CAS [620-45-1]
- EINECS-No.: 210-640-4
- Solub. in water: (20 °C): slightly soluble
- Tariff number: 2925 29 00 90
- Applications: analytical chemistry, indicator.

assay (titration with HClO<sub>4</sub>, referred to dried sample) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
TLC test . . . . . passes test  
loss on drying (120 °C) . . . . . max. 12 %  
interfering dyes . . . . . passes test

ART. NO.	VOLUME	CONTAINER
DI04150005	5 g	0
DI04150025	25 g	0

## DIETHANOLAMINE



- Synonyms: 2,2'-Iminodiethanol, Bis(β-hydroxyethyl) amine, 2,2'-Dihydroxydiethylamine
- C<sub>4</sub>H<sub>11</sub>NO<sub>2</sub>
- M = 105,14 g/mol
- CAS [111-42-2]
- EINECS-No.: 203-868-0
- Density: 1,09 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 28 °C
- Boiling point: 269 - 271 °C
- Flash pt. 177 °C
- Ignition temp.: 370 °C

- Vapour pressure: (20 °C) < 0,01 hPa
- LD 50 (oral, rat): 676 mg/kg
- EC-Index-No.: 603-071-00-1
- GHS-signal word: Danger
- GHS-H sentences: H318 - H373 - H302 - H315
- GHS-P sentences: P260 - P280 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 2922 12 00 00
- Applications: analytical chemistry, in the rubber industry, cosmetics, as raw material for drug manufacture, in lubricant compositions (in the textile industry), synthesis of organic products, herbicide.

DI0470 Diethanolamine, EssentQ®



assay (acidimetric) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
water (K.F.) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
DI04701000	1 l	0





ART. NO.	VOLUME	CONTAINER
DI0470005P	5 l	0

## DI0472 Diethanolamine, extra pure, Pharmpur®, NF

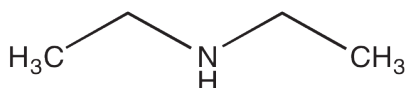


assay (acidimetric, referred to dried sample) ..... 98,5 - 101,0 %  
 identification ..... passes test  
 refractive index n<sub>30/D</sub> ..... 1,473 - 1,476  
 triethanolamine ..... max. 1,0 %  
 water (K.F.) ..... max. 0,15 %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
DI04720250	250 ml	
DI04721000	1 l	
DI0472005P	5 l	
DI0472025P	25 l	

## DIETHYLAMINE



- Synonyms: N-Ethylethanamine
- C<sub>4</sub>H<sub>11</sub>N
- M = 73,14 g/mol
- CAS [109-89-7]
- EINECS-No.: 203-716-3
- Density: 0,71 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -48 °C
- Boiling point: 56 °C
- Flash pt. -23 °C
- Ignition temp.: 310 °C
- Vapour pressure: (20 °C) 260 hPa
- Refraction index: (n 20 °C/D) 1,3861
- LD 50 (oral, rat): 540 mg/kg

- EC-Index-No.: 612-003-00-X
- ADR: 3 FC II UN 1154
- IMDG: 3 II UN 1154
- IATA/ICAO: 3 II UN 1154
- GHS-signal word: Danger
- GHS-H sentences: H225 - H314 - H302 - H312 - H332
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2921 19 50 00
- Applications: analytical chemistry, synthesis of organic products, in the rubber industry, for pharmaceutical use, manufacture of dyes, resins, in the petroleum industry.

## DI0485 Diethylamine, EssentQ®



assay (G.C.) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/20°) ..... about 0,71  
 boiling point ..... about 55°C

residue on evaporation ..... max. 0,01 %  
 water (K.F.) ..... max. 0,2 %




ART. NO.	VOLUME	CONTAINER
DI04851000	1 l	
DI04852500	2,5 l	

## DI0486 Diethylamine, ExpertQ®, for analysis, ACS, Reag. Ph Eur



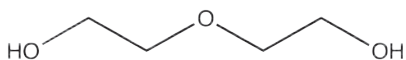
assay (G.C.) ..... min. 99,5 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/20°) ..... about 0,71  
 colour (Hazen) ..... max. 20  
 boiling point ..... about 55°C

monoethylamine (G.C.) ..... max. 0,2 %  
 triethylamine (G.C.) ..... max. 0,2 %  
 residue on evaporation ..... max. 0,01 %  
 water (K.F.) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
DI04860250	250 ml	
DI04861000	1 l	
DI0486025P	25 l	




## DIETHYLENE GLYCOL

## DI0562 Diethylene glycol, EssentQ®

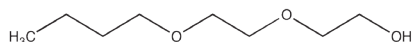


- Synonyms: 2,2'-Oxydiethanol, 2,2'-Dihydroxydiethyl ether, Diglycol
- C<sub>4</sub>H<sub>10</sub>O<sub>3</sub>
- M = 106,12 g/mol
- CAS [111-46-6]
- EINECS-No.: 203-872-2
- Density: 1,12 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -10 °C
- Boiling point: 244 - 252 °C
- Flash pt. 146 °C
- Ignition temp.: ~ 230 °C
- Vapour pressure: (20 °C) 0,013 hPa
- Refraction index: (n 20 °C/D) 1,4475
- Dielectric const.: (20 °C) 32
- LD 50 (oral, rat): 12565 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2909 41 00 00
- Applications: analytical chemistry, synthesis of organic products, in antifreeze compositions, solvents.

assay (G.C.) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 1,115 - 1,117  
 residue on ignition ..... max. 0,005 %  
 water (K.F.) ..... max. 0,3 %

ART. NO.	VOLUME	CONTAINER
DI05621000	1 l	
DI05622500	2,5 l	
DI0562005P	5 l	

## DIETHYLENE GLYCOL MONOBUTYL ETHER



- Synonyms: Butyl diglycol, 2-(2-Butoxyethoxy)ethanol, Butyl carbitol
- $C_8H_{18}O_3$
- $M = 162,23 \text{ g/mol}$
- CAS [112-34-5]
- EINECS-No.: 203-961-6
- Density:  $0,95 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $-68 \text{ °C}$
- Boiling point:  $226 - 234 \text{ °C}$
- Flash pt.  $98 \text{ °C}$
- Ignition temp.:  $225 \text{ °C}$
- Vapour pressure: (20 °C)  $0,1 \text{ hPa}$
- Refraction index: (n 20 °C/D)  $1,4316$
- Dielectric const.: (20 °C)  $9,7$
- LD 50 (oral, rat):  $5660 \text{ mg/kg}$
- EC-Index-No.: 603-096-00-8
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2909 43 00 00
- Applications: synthesis of organic products, solvents.

### DI0572 Diethylene glycol monobutyl ether, EssentQ®



assay (G.C.) . . . . .min. 99 %  
identity (IR-spectrum) . . . . .passes test  
density (20°/4°) . . . . .0,951 - 0,954  
peroxides (as  $H_2O_2$ ) . . . . .max. 0,05 %

residue on ignition . . . . .max. 0,01 %  
water (K.F.) . . . . .max. 0,2 %

ART. NO.	VOLUME	CONTAINER
DI05721000	1 l	0
DI0572005P	5 l	10

### DI0573 Diethylene glycol monobutyl ether, ExpertQ®, for analysis



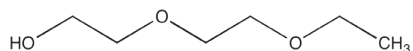
assay (G.C.) . . . . .min. 99 %  
identity (IR-spectrum) . . . . .passes test  
density (20°/4°) . . . . .0,951 - 0,954  
free acid (as  $CH_3COOH$ ) . . . . .max. 0,005 %  
aluminium (Al) . . . . .max. 0,5 ppm  
barium (Ba) . . . . .max. 0,1 ppm  
boron (B) . . . . .max. 0,02 ppm  
cadmium (Cd) . . . . .max. 0,05 ppm  
calcium (Ca) . . . . .max. 0,5 ppm  
chromium (Cr) . . . . .max. 0,02 ppm  
copper (Cu) . . . . .max. 0,02 ppm

iron (Fe) . . . . .max. 0,1 ppm  
lead (Pb) . . . . .max. 0,1 ppm  
magnesium (Mg) . . . . .max. 0,1 ppm  
manganese (Mn) . . . . .max. 0,02 ppm  
nickel (Ni) . . . . .max. 0,02 ppm  
tin (Sn) . . . . .max. 0,1 ppm  
zinc (Zn) . . . . .max. 0,1 ppm  
aldehydes (as  $CH_3CHO$ ) . . . . .max. 0,001 %  
peroxides (as  $H_2O_2$ ) . . . . .max. 0,0003 %  
residue on ignition . . . . .max. 0,1 %  
water (K.F.) . . . . .max. 0,03 %

ART. NO.	VOLUME	CONTAINER
DI05731000	1 l	0

## DIETHYLENE GLYCOL MONOETHYL ETHER

### DI0580 Diethylene glycol monoethyl ether, EssentQ®



- Synonyms: Ethyl diglycol, 2-(2-Ethoxyethoxy)-ethanol, Carbitol
- $C_8H_{18}O_3$
- $M = 134,18 \text{ g/mol}$
- CAS [111-90-0]
- EINECS-No.: 203-919-7
- Density:  $0,99 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $-80 \text{ °C}$
- Boiling point:  $207 \text{ °C}$
- Flash pt.  $93 \text{ °C}$
- Ignition temp.:  $190 \text{ °C}$
- Vapour pressure: (20 °C)  $0,13 \text{ hPa}$
- Refraction index: (n 20 °C/D)  $1,427$
- Dielectric const.: (20 °C)  $12,6$
- LD 50 (oral, rat):  $8690 \text{ mg/kg}$
- Tariff number: 2909 44 00 90
- Applications: synthesis of organic products, solvents.

assay (G.C.) . . . . .min. 98 %  
identity (IR-spectrum) . . . . .passes test  
density (20°/4°) . . . . .0,987 - 0,990  
peroxides (as  $H_2O_2$ ) . . . . .max. 0,05 %  
residue on ignition . . . . .max. 0,01 %  
water (K.F.) . . . . .max. 0,1 %

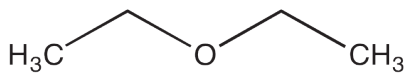
ART. NO.	VOLUME	CONTAINER
DI05801000	1 l	0
DI0580005P	5 l	10

## New Methanol Ultragradient The best Methanol for your chromatography

The only HPLC methanol on the market  
that ensures minimal gradient absorption  
at 3 different wavelengths (230, 235 and 254 nm)



## DIETHYL ETHER







- Synonyms: Ethyl ether, Ethyl oxide, Ether
- C<sub>4</sub>H<sub>10</sub>O
- M = 74,12 g/mol
- CAS [60-29-7]
- EINECS-No.: 200-467-2
- Density: 0,71 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 69 g/l
- Melting point: -116,3 °C
- Boiling point: 34,6 °C
- Flash pt. -40 °C
- Ignition temp.: 170 °C
- Vapour pressure: (20 °C) 587 hPa
- Dielectric const.: (20 °C) 4,3
- LD 50 (oral, rat): 1215 mg/kg





- EC-Index-No.: 603-022-00-4
- ADR: 3 F1 I UN 1155
- IMDG: 3 I UN 1155
- IATA/ICAO: 3 I UN 1155
- GHS-signal word: Danger
- GHS-H sentences: H224 - H302 - H336 - EUH019 - EUH066
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2909 11 00 00
- Applications: solvents, synthesis of organic products, solvent for active principles from plant and animal tissues extractions.

ET0077 Diethyl ether, EssentQ®, stabilized with approx. 7 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,713 - 0,715  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,0003 %  
residue on evaporation . . . . . max. 0,003 %  
water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
ET00771000	1 l	
ET00772500	2,5l	
ET0077005M	5 l	
ET0077007E	7 l	








ART. NO.	VOLUME	CONTAINER
ET0077025L	25 l	
ET0077025S	25 l	
ET0077030S	30 l	
ET0077200E	200 l	

ET0078 Diethyl ether, extra pure, Pharmpur®, Ph Eur, BP, stabilized with approx. 7 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



assay (G.C.) . . . . . min. 99,5 %  
identification . . . . . passes test  
density (20°/20°) . . . . . 0,714 - 0,716  
distillation range . . . . . -34,0 - 35,0 °C  
acidity . . . . . passes test  
aldehydes . . . . . passes test  
peroxides . . . . . passes test  
low-boiling hydrocarbons . . . . . max. 0,2 %  
substances with a foreign odour . . . . . passes test  
residue on evaporation . . . . . max. 0,002 %  
water (K.F.) . . . . . max. 0,05 %

Residual solvents are analysed according to guideline CPMP/ICH/283/95.








ART. NO.	VOLUME	CONTAINER
ET00781000	1 l	
ET00782500	2,5 l	
ET0078005M	5 l	
ET0078007E	7 l	
ET0078025A	25 l	
ET0078025S	25 l	
ET0078200L	200 l	

ET0079 Diethyl ether, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur, stabilized with approx. 7 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/20°) . . . . . 0,713 - 0,714  
distillation range . . . . . -34,0 - 35,0 °C  
appearance . . . . . clear and colourless  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
alcohol (as ethanol) . . . . . passes test  
chlorides (Cl) . . . . . max. 0,00003 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,00003 %  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
acetone (G.C.) . . . . . max. 0,005 %  
ethanol (G.C.) . . . . . max. 0,02 %  
methanol (G.C.) . . . . . max. 0,02 %  
carbonyl compounds (as CO) . . . . . max. 0,001 %  
carbonyl compounds (as HCHO) . . . . . max. 0,001 %  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,000015 %  
peroxides . . . . . passes test  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ET00791000	1 l	
ET00792500	2,5 l	
ET0079005M	5 l	
ET0079007E	7 l	
ET0079025A	25 l	
ET0079025S	25 l	
ET0079200L	200 l	

ET0080 Diethyl ether, dried (max. 0,0075% H<sub>2</sub>O), ExpertQ®, for analysis, stabilized with approx. 7 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,713 - 0,715  
colour (Hazen) . . . . . max. 10  
appearance . . . . . clear  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm

magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
acetone (G.C.) . . . . . max. 0,005 %  
ethanol (G.C.) . . . . . max. 0,02 %  
methanol (G.C.) . . . . . max. 0,02 %  
aldehydes (as CH<sub>3</sub>CHO) . . . . . max. 0,001 %  
carbonyl compounds (as CO) . . . . . max. 0,001 %  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,00003 %  
sulfur compounds (as S) . . . . . max. 0,00006 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 0,0075 %

ART. NO.	VOLUME	CONTAINER
ET00801000	1 l	
ET00802500	2,5 l	



**ET0082** Diethyl ether, stabilized with approx. 7 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT), Multisolvent® ACS ISO



assay (G.C.) . . . . . min. 99,7 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,713 - 0,715  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 chlorides (Cl) . . . . . max. 0,00003 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00003 %  
 aluminium (Al) . . . . . max. 0,1 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,3 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,02 ppm

lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,01 ppm  
 acetone (G.C.) . . . . . max. 0,005 %  
 ethanol (G.C.) . . . . . max. 0,02 %  
 methanol (G.C.) . . . . . max. 0,02 %  
 aldehydes (as HCHO) . . . . . max. 0,00007 %  
 carbonyl compounds (as CH<sub>3</sub>CHO) . . . . . max. 0,001 %  
 carbonyl compounds (as CO) . . . . . max. 0,001 %  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,000015 %  
 sulfur compounds (as S) . . . . . max. 0,00006 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
ET00821000	1 l	0
ET00822500	2,5 l	0
ET0082007E	7 l	0
ET0082020S	20 l	0
ET0082025S	25 l	0

**ET0073** Diethyl ether, standard substance for GC



assay . . . . . 99,7 %  
 over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200°C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
ET00730005	5ml	0

**ET0083** Diethyl ether, 99,7%, anhydrous (max. 0,005% H<sub>2</sub>O), stabilized with approx. 7 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



assay (G.C.) . . . . . min. 99,7 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,713 - 0,715  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 chlorides (Cl) . . . . . max. 0,00003 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00003 %  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 acetone (G.C.) . . . . . max. 0,005 %  
 ethanol (G.C.) . . . . . max. 0,02 %  
 methanol (G.C.) . . . . . max. 0,02 %  
 carbonyl compounds (as CH<sub>3</sub>CHO) . . . . . max. 0,001 %  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,002 %  
 sulfur compounds (as S) . . . . . max. 0,00006 %  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
ET00830100	100 ml	0
ET00830500	500 ml	0
ET00831000	1 l	0

**ET0074** Diethyl ether, 99,5%, anhydrous (max. 0,005% H<sub>2</sub>O), with molecular sieves, stabilized with approx. 7 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



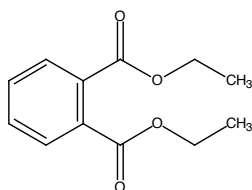
assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,713 - 0,715  
 acidity . . . . . max. 0,001 meq/g  
 aldehydes . . . . . passes test  
 copper (Cu) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm

nickel (Ni) . . . . . max. 0,2 ppm  
 acetone (G.C.) . . . . . max. 0,01 %  
 ethanol (G.C.) . . . . . max. 0,1 %  
 methanol (G.C.) . . . . . max. 0,05 %  
 substances with a foreign odour . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
ET00741000	1 l	0

**DIETHYL PHTHALATE**

**FT0045** Diethyl phthalate, EssentQ®



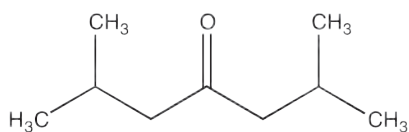
- Synonyms: Ethyl phthalate, DEP, Phthalic acid diethyl ester
- C<sub>12</sub>H<sub>14</sub>O<sub>4</sub>
- M = 222,24 g/mol
- CAS [84-66-2]
- EINECS-No.: 201-550-6
- Density: 1,12 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: -3 °C
- Boiling point: 296 - 298 °C
- Flash pt. 156 °C
- Ignition temp.: 430 °C
- Vapour pressure: (20 °C) 0,002 hPa
- Refraction index: (n 20 °C/D) 1,5022
- LD 50 (oral, rat): 8200 mg/kg
- Tariff number: 2917 34 00 90
- Applications: analytical chemistry, perfumery, synthesis of organic products.

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,117 - 1,119  
 free acid [as C<sub>6</sub>H<sub>4</sub>(COOH)<sub>2</sub>] . . . . . max. 0,05 %  
 residue on ignition . . . . . max. 0,01 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
FT00451000	1 l	0

## DIISOBUTYL KETONE

DI0810 Diisobutyl ketone, EssentQ®

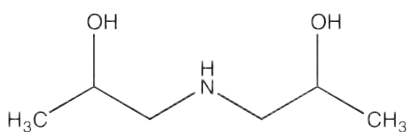


- Synonyms: 2,6-Dimethyl-4-heptanone, Isobutyl ketone
- $C_9H_{18}O$
- $M = 142,24$  g/mol
- CAS [108-83-8]
- EINECS-No.: 203-620-1
- Density:  $0,81$  g/cm<sup>3</sup>
- Solub. in water: (20 °C):  $0,5$  g/l
- Melting point:  $-46$  °C
- Boiling point:  $168$  °C
- Flash pt.  $49$  °C
- Ignition temp.:  $345$  °C
- Vapour pressure: (20 °C)  $2,6$  hPa
- Refraction index: (n 20 °C/D)  $1,4143$
- LD 50 (oral, rat):  $5750$  mg/kg
- EC-Index-No.: 606-005-00-X
- ADR: 3 F1 III UN 1157
- IMDG: 3 III UN 1157
- IATA/ICAO: 3 III UN 1157
- GHS-signal word: Warning
- GHS-H sentences: H226 - H335
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2914 19 90 90
- Applications: analytical chemistry, synthesis of organic products.

total isomer content (G.C.) ..... min. 98 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) .....  $0,807 - 0,811$   
 free acid (as  $CH_3COOH$ ) ..... max.  $0,01$  %  
 copper (Cu) ..... max.  $0,2$  ppm  
 iron (Fe) ..... max.  $0,5$  ppm  
 lead (Pb) ..... max.  $0,2$  ppm  
 nickel (Ni) ..... max.  $0,2$  ppm  
 residue on evaporation ..... max.  $0,005$  %  
 water (K.F.) ..... max.  $0,2$  %

ART. NO.	VOLUME	CONTAINER
DI08101000	1 l	0
DI08102500	2,5 l	0

## DIISOPROPANOLAMINE



- Synonyms: 1,1-Iminodi-2-propanol, Bis(2-hydroxypropyl)amine
- $C_9H_{15}NO_2$
- $M = 133,19$  g/mol
- CAS [110-97-4]
- EINECS-No.: 203-820-9
- Density:  $0,99$
- Solub. in water: (20 °C):  $870$  g/l
- Melting point:  $36 - 42$  °C
- Boiling point:  $249$  °C
- Flash pt.  $135$  °C
- Ignition temp.:  $290$  °C

- Vapour pressure: (20 °C)  $0,02$  hPa
- Refraction index: (n 16 °C/D)  $1,4702$
- LD 50 (oral, rat):  $6720$  mg/kg
- EC-Index-No.: 603-083-00-7
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2922 19 80 90
- Applications: synthesis of organic products, for pharmaceutical use.

DI0825 Diisopropanolamine, EssentQ®



assay (acidimetric, referred to dried sample) ..... min. 98 %  
 identity (IR-spectrum) ..... passes test

water (K.F.) ..... max.  $0,5$  %

ART. NO.	VOLUME	CONTAINER
DI0825025P	25 kg	7

DI0827 Diisopropanolamine, extra pure, Pharmpur®, NF

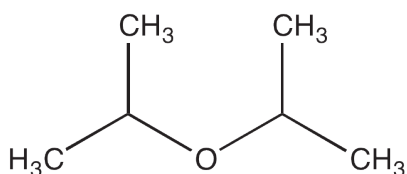


assay (acidimetric, referred to dried sample) .....  $98,0 - 102,0$  %  
 identification ..... passes test  
 triisopropanolamine ..... max.  $1,0$  %  
 water (K.F.) ..... max.  $0,50$  %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
DI08271000	1 kg	0
DI0827025P	25 kg	7

## DIISOPROPYL ETHER



- Synonyms: Isopropyl ether, 2,2'-Oxybis[propane], 2,2-Propoxypropane
- $C_6H_{14}O$
- $M = 102,18$  g/mol
- CAS [108-20-3]
- EINECS-No.: 203-560-6
- Density:  $0,72$  g/cm<sup>3</sup>
- Solub. in water: (20 °C):  $12$  g/l
- Melting point:  $-86$  °C
- Boiling point:  $67 - 70$  °C
- Flash pt.  $-28$  °C
- Ignition temp.:  $405$  °C
- Vapour pressure: (20 °C)  $175$  hPa

- Dielectric const.: (25 °C)  $3,8$
- LD 50 (oral, rat):  $8470$  mg/kg
- EC-Index-No.: 603-045-00-X [2]
- ADR: 3 F1 II UN 1159
- IMDG: 3 II UN 1159
- IATA/ICAO: 3 II UN 1159
- GHS-signal word: Danger
- GHS-H sentences: H225 - H336 - EUH019 - EUH066
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2909 19 00 90
- Applications: analytical chemistry, solvents.

ET0086 Diisopropyl ether, EssentQ<sup>®</sup>, stabilized with approx. 10 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,722 - 0,724  
acidity . . . . . max. 0,0008 meq/g  
copper (Cu) . . . . . max. 0,2 ppm  
iron (Fe) . . . . . max. 0,5 ppm  
lead (Pb) . . . . . max. 0,2 ppm

nickel (Ni) . . . . . max. 0,2 ppm  
acetone (G.C.) . . . . . max. 0,1 %  
2-propanol (G.C.) . . . . . max. 0,5 %  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ET00862500	2,5 l	0
ET00861000	1 l	0

ET0087 Diisopropyl ether, ExpertQ<sup>®</sup>, for analysis, ACS, stabilized with approx. 50 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



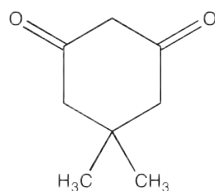
assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,722 - 0,724  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0005 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
lithium (Li) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
peroxides (as C<sub>6</sub>H<sub>14</sub>O<sub>2</sub>) . . . . . max. 0,001 %  
residue on evaporation . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ET00871000	1 l	0
ET00872500	2,5 l	0
ET0087025A	25 l	0

## DIMEDONE

DI0840 Dimedone, (reagent for aldehydes), ExpertQ<sup>®</sup>, for analysis

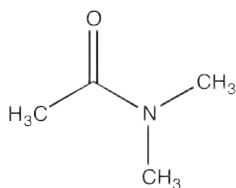


- Synonyms: 5,5-Dimethyl-1,3-cyclohexanedione, 5,5-Dimethyldihydroresorcinol, 5,5-Dimethyl-1,3-dioxocyclohexane, Methone
- C<sub>8</sub>H<sub>12</sub>O<sub>2</sub>
- M = 140,18 g/mol
- CAS [126-81-8]
- EINECS-No.: 204-804-4
- Solub. in water: (25 °C): 4,01 g/l
- Melting point: 148 - 150 °C (decomposes)
- Tariff number: 2914 29 00 90
- Applications: Separation and identification of: aldehydes; synthesis of organic products, analytical chemistry.

assay (acidimetric, on dried sample) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in C<sub>2</sub>H<sub>5</sub>OH . . . . . passes test  
suitability for determination of formaldehyde . . . . . passes test

ART. NO.	VOLUME	CONTAINER
DI08400025	25 g	0

## n,n-DIMETHYLACETAMIDE



- Synonyms: Acetic acid dimethylamide
- C<sub>4</sub>H<sub>9</sub>NO
- M = 87,12 g/mol
- CAS [127-19-5]
- EINECS-No.: 204-826-4
- Density: 0,94 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -20 °C
- Boiling point: 165 -166 °C
- Flash pt. 64 °C
- Ignition temp.: 320 °C
- Vapour pressure: (20 °C) 1,76 hPa

- Refraction index: (n 20°C/D) 1,4230
- Dielectric const.: (25 °C) 37,8
- LD 50 (oral, rat): 4300 mg/kg
- EC-Index-No.: 616-011-00-4
- GHS-signal word: Danger
- GHS-H sentences: H360D - H312 - H332
- GHS-P sentences: P261 - P280 - P281 - P322 - P405 - P501a
- Tariff number: 2924 19 00 90
- Applications: laboratory reagent, solvents (synthesis of organic products).

DI0855 N,N-Dimethylacetamide, EssentQ<sup>®</sup>



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,940 - 0,942  
residue on evaporation . . . . . max. 0,01 %  
water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
DI08551000	1 l	0
DI08552500	2,5 l	0

ART. NO.	VOLUME	CONTAINER
DI0855005P	5 l	0
DI0855200L	200 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## DI0856 N,N-Dimethylacetamide, ExpertQ®, for analysis



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,940 - 0,942  
acidity . . . . . max. 0,0005 meq/g  
pH (20 %, H<sub>2</sub>O) . . . . . 4,0 - 7,0  
chlorides (Cl) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
heavy metals (as Pb) . . . . . max. 0,05 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
DI08561000	1 l	0

## DI0860 N,N-Dimethylacetamide, HPLC grade



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,940 - 0,942  
acidity . . . . . max. 0,0005 meq/g  
alkalinity . . . . . max. 0,003 meq/g  
residue on evaporation . . . . . max. 0,0002 %  
water (K.F.) . . . . . max. 0,05 %

min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A (AU)  
275 nm . . . . . 20 % 0,699 AU  
285 nm . . . . . 50 % 0,301 AU  
310 nm . . . . . 90 % 0,046 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
DI08601000	1 l	0
DI08602500	2,5 l	0

## DI0862 N,N-Dimethylacetamide, GC head space grade



assay (G.C.) . . . . . min. 99,9 %  
refractive index n<sub>20</sub>/D . . . . . 1,438 - 1,439  
water (K.F.) . . . . . max. 0,03 %  
Packed under inert gas.  
Suitable for residual solvents analysis Residual  
solvents are analysed according to guideline CPMP/  
ICH/283/95. Class 1 solvents excluded by production  
process. Class 2 and class 3 solvents likely to be  
present below following limits  
dichloromethane . . . . . 0,6 mg/l  
tert-Butyl methyl ether . . . . . 1 mg/l  
acetone . . . . . 1 mg/l  
methanol . . . . . 1 mg/l  
tetrahydrofuran . . . . . 0,7 mg/l  
n-Hexane . . . . . 0,3 mg/l  
ethyl acetate . . . . . 1 mg/l  
ethanol . . . . . 1 mg/l

cyclohexane . . . . . 1 mg/l  
acetonitrile . . . . . 0,4 mg/l  
2-propanol . . . . . 1 mg/l  
isopropyl acetate . . . . . 1 mg/l  
n-Propanol . . . . . 1 mg/l  
n-Heptane . . . . . 1 mg/l  
methylcyclohexane . . . . . 1 mg/l  
1,4-Dioxane . . . . . 0,4 mg/l  
toluene . . . . . 0,9 mg/l  
pyridine . . . . . 1 mg/l  
n-Butanol . . . . . 1 mg/l  
butyl acetate . . . . . 1 mg/l  
ethylbenzene . . . . . 1 mg/l  
p-Xylene . . . . . 1 mg/l  
m-Xylene . . . . . 1 mg/l  
o-Xylene . . . . . 1 mg/l  
benzene (G.C.) . . . . . absence

ART. NO.	VOLUME	CONTAINER
DI08621000	1 l	0
DI08622500	2,5 l	0

## DI0858 N,N-Dimethylacetamide, standard substance for GC



assay . . . . . 99,9%  
over ramp . . . . . 80°C, 7°C/min 220°C  
identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
DI08580005	5 ml	0

## DI0861 N,N-Dimethylacetamide, 99,5%, anhydrous (max. 0,005% H<sub>2</sub>O)



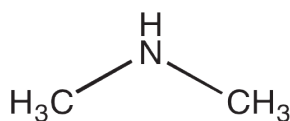
assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,940 - 0,942  
free acid (as CH<sub>3</sub>COOH) . . . . . max. 0,01 %  
free alkali (as (CH<sub>3</sub>)<sub>2</sub>NH) . . . . . max. 0,01 %  
chlorides (Cl) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,2 ppm  
heavy metals (as Pb) . . . . . max. 0,05 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
DI08610100	100 ml	0

## DIMETHYLAMINE, SOLUTION 40%

DI0870 Dimethylamine, solution 40% in water, w/w, EssentQ®



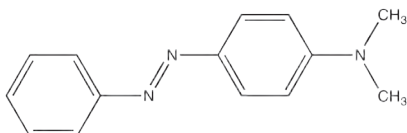
- Synonyms: N-Methylmethanamine
- C<sub>2</sub>H<sub>7</sub>N
- M = 45,09 g/mol
- CAS [124-40-3]
- EINECS-No.: 204-697-4
- Density: 0,89 g/cm<sup>3</sup>
- Melting point: -37 °C
- Boiling point: 54 °C
- Flash pt. -18 °C
- Ignition temp.: 415 °C
- Vapour pressure: (20 °C) 263 hPa
- Refraction index: (n 20 °C/D) 1,3700
- LD 50 (oral, rat): 698 mg/kg (pure substance)
- EC-Index-No.: 612-001-00-9
- ADR: 3 FC II UN 1160
- IMDG: 3 II UN 1160
- IATA/ICAO: 3 II UN 1160
- GHS-signal word: Danger
- GHS-H sentences: H225 - H318 - H302 - H335 - H315
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2921 11 00 00
- Applications: analytical chemistry, in the rubber industry, cosmetics, detergent, laboratory reagent (magnesium).
- Appearance: Colourless clear liquid

assay (acidimetric) . . . . . approx. 40 %

ART. NO.	VOLUME	CONTAINER
DI08701000	1 l	0

## 4-(DIMETHYLAMINO)-AZOBENZENE

DI0900 4-(Dimethylamino)-azobenzene, ExpertQ®, for analysis

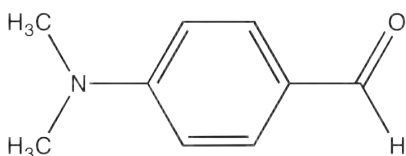


- Synonyms: Methyl yellow, Dimethyl yellow, Solvent yellow 2
- C<sub>14</sub>H<sub>15</sub>N<sub>3</sub>
- M = 225,30 g/mol
- CAS [60-11-7]
- EINECS-No.: 200-455-7
- Solub. in water: (20 °C): almost insoluble
- Melting point: 113 - 117 °C
- LD 50 (oral, rat): 200 mg/kg
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H301 - H351 - H317
- GHS-P sentences: P261 - P280 - P281 - P321 - P405 - P501a
- Tariff number: 2927 00 00 90
- Applications: indicator, analytical chemistry.
- Appearance: Orange-orange brown powder

identity (IR-spectrum) . . . . . passes test  
pH range (red to yellow) . . . . . 3,0 - 4,0  
Absorption max λ<sub>1</sub> (buffer pH 3,0) . . . . . 508 - 511 nm  
Absorption max λ<sub>2</sub> (buffer pH 4,0) . . . . . 455 - 460 nm  
Absorption max λ<sub>3</sub> (ethanol) . . . . . 403 - 407 nm  
Absorptivity (A1%/1 cm; λ<sub>3</sub>, 0,0005%; ethanol, on dried sample) . . . . . 1100 - 1300  
loss on drying (105 °C). . . . . max. 5 %

ART. NO.	VOLUME	CONTAINER
DI09000010	10 g	0
DI09000100	100 g	0

## 4-(DIMETHYLAMINO)-BENZALDEHYDE



- Synonyms: p-Formyldimethylaniline, Ehrlich's reagent
- C<sub>11</sub>H<sub>11</sub>NO
- M = 149,19 g/mol
- CAS [100-10-7]
- EINECS-No.: 202-819-0
- Solub. in water: (20 °C): 0,3 g/l
- Melting point: 72 - 75 °C
- Boiling point: (23 hPa) 176 - 177 °C

- Flash pt. > 100 °C
- LD 50 (oral, rat): > 6400 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2922 39 00 90
- Applications: analytical chemistry, manufacture of dyes and for pharmaceutical use.

DI0935 4-(Dimethylamino)-benzaldehyde, EssentQ®



assay (G.C.) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
DI09350100	100 g	0

ART. NO.	VOLUME	CONTAINER
DI09350250	250 g	0



## DI0937 4-(Dimethylamino)-benzaldehyde, ExpertQ®, for analysis, ACS

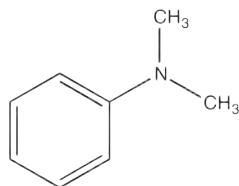


assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
melting point . . . . . 73 - 75°C  
colour (Hazen) of alcohol solution . . . . . max. 60  
colour of hydrochloric acid solution . . . . . passes test

iron (Fe) . . . . . max. 0,001 %  
solubility in alcohol . . . . . passes test  
solubility in HCl . . . . . passes test  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on ignition . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
DI09370025	25 g	0
DI09370100	100 g	0

## N,N-DIMETHYLANILINE



- Synonyms: Dimethylaminobenzene
- C<sub>9</sub>H<sub>11</sub>N
- M = 121,18 g/mol
- CAS [121-69-7]
- EINECS-No.: 204-493-5
- Density: 0,96 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 1,2 g/l
- Melting point: 2,45 °C
- Boiling point: 194,2 °C
- Flash pt. 63 °C
- Ignition temp.: 370 °C
- Vapour pressure: (20 °C) 0,53 hPa
- Refraction index: (n 20°/D) 1,5581
- LD 50 (oral, rat): 1120 mg/kg

- EC-Index-No.: 612-016-00-0
- ADR: 6.1 T1 II UN 2253
- IMDG: 6.1 II UN 2253
- IATA/ICAO: 6.1 II UN 2253
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H331 - H351 - H411
- GHS-P sentences: P261 - P280 - P361 - P321 - P405 - P501a
- Tariff number: 2921 42 90 00
- Applications: synthesis of organic products, solvents, manufacture of dyes, laboratory reagent, in food industry.

## DI0972 N,N-Dimethylaniline, EssentQ®



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,955 - 0,957

residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
DI09721000	1 l	0

## DI0975 N,N-Dimethylaniline, ExpertQ®, for analysis

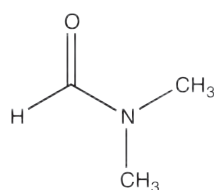


assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,955 - 0,956  
copper (Cu) . . . . . max. 0,2 ppm  
heavy metals (as Pb) . . . . . max. 1 ppm  
iron (Fe) . . . . . max. 0,5 ppm

lead (Pb) . . . . . max. 0,2 ppm  
nickel (Ni) . . . . . max. 0,2 ppm  
aniline (G.C.) . . . . . max. 0,005 %  
n-methylaniline (G.C.) . . . . . max. 0,4 %  
residue on ignition . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
DI09750250	250 ml	0
DI09751000	1 l	0

## N,N-DIMETHYLFORMAMIDE



- Synonyms: DMF, Formic acid dimethylamide
- C<sub>3</sub>H<sub>7</sub>NO
- M = 73,10 g/mol
- CAS [68-12-2]
- EINECS-No.: 200-679-5
- Density: 0,94 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -61 °C
- Boiling point: 153 °C
- Flash pt. 58 °C
- Ignition temp.: 410 °C
- Vapour pressure: (20 °C) 3,77 hPa
- Refraction index: (n 20 °C/D) 1,4305
- Dielectric const.: (20 °C) 36,7

- LD 50 (oral, rat): 2800 mg/kg
- EC-Index-No.: 616-001-00-X
- ADR: 3 F1 III UN 2265
- IMDG: 3 III UN 2265
- IATA/ICAO: 3 III UN 2265
- GHS-signal word: Danger
- GHS-H sentences: H360D - H226 - H312 - H332 - H319
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2924 19 00 90
- Applications: solvents, synthesis of organic products.
- Appearance: Clourless

## DI1061 N,N-Dimethylformamide, EssentQ®



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,948 - 0,950  
free alkali (as (CH<sub>3</sub>)<sub>2</sub>NH) . . . . . max. 0,1 %  
residue on evaporation . . . . . max. 0,02 %  
water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
DI10611000	1 l	0
DI10612500	2,5 l	0
DI1061005P	5 l	0

ART. NO.	VOLUME	CONTAINER
DI1061025P	25 l	0

DI1065 N,N-Dimethylformamide, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,948 - 0,950  
 density (20°/20°) . . . . . 0,949 - 0,952  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 boiling point . . . . . 152 - 154 °C  
 acidity . . . . . max. 0,0005 meq/g  
 alkalinity . . . . . max. 0,003 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm

calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
DI10651000	1 l	0
DI10652500	2,5 l	0
DI1065005P	5 l	0
DI1065005L	5 l	0
DI1065025A	25 l	0

DI1071 N,N-Dimethylformamide, dried (max. 0,01% H<sub>2</sub>O), ExpertQ®, for analysis



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,948 - 0,950  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0005 meq/g  
 alkalinity . . . . . max. 0,003 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm

chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
DI10711000	1 l	0

DI1072 N,N-Dimethylformamide, Multisolvant® HPLC grade ACS ISO UV-VIS



assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,948 - 0,950  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0005 meq/g  
 alkalinity . . . . . max. 0,003 meq/g  
 aluminium (Al) . . . . . max. 0,1 ppm  
 barium (Ba) . . . . . max. 0,01 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,3 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,02 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm

manganese (Mn) . . . . . max. 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,01 ppm  
 residue on evaporation . . . . . max. 0,0002 %  
 water (K.F.) . . . . . max. 0,05 %  
 liquid chromatography suitability  
 absorbance . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 268 nm . . . . . 15 % 0,824 AU  
 275 nm . . . . . 50 % 0,301 AU  
 290 nm . . . . . 80 % 0,097 AU  
 300 nm . . . . . 90 % 0,046 AU  
 330 nm . . . . . 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
DI10721000	1 l	0
DI10722500	2,5 l	0
DI10724000	4 l	0
DI1072020S	20 l	0
DI1072025S	25 l	0

DI1068 N,N-Dimethylformamide, for GC residue analysis



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,948 - 0,950  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,05 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
DI10681000	1 l	0
DI10682500	2,5 l	0

DI1074 N,N-Dimethylformamide, GC head space grade



assay (G.C.) . . . . . min. 99,9 %  
 refractive index n<sub>20</sub>/D . . . . . 1,430 - 1,440  
 water (K.F.) . . . . . max. 0,03 %  
 Packed under inert gas Suitable for residual solvents analysis Residual solvents are analysed according to guideline CPMP/ICH/283/95. Class 1 solvents excluded by production process. Class 2 and class 3 solvents likely to be present below following limits  
 dichloromethane . . . . . 0,6 mg/l  
 tert-Butyl methyl ether . . . . . 1 mg/l  
 acetone . . . . . 1 mg/l  
 methanol . . . . . 1 mg/l  
 tetrahydrofuran . . . . . 0,7 mg/l  
 n-Hexane . . . . . 0,3 mg/l  
 ethyl acetate . . . . . 1 mg/l  
 ethanol . . . . . 1 mg/l  
 cyclohexane . . . . . 1 mg/l

acetonitrile . . . . . 0,4 mg/l  
 2-propanol . . . . . 1 mg/l  
 isopropyl acetate . . . . . 1 mg/l  
 n-Propanol . . . . . 1 mg/l  
 n-Heptane . . . . . 1 mg/l  
 methylcyclohexane . . . . . 1 mg/l  
 1,4-Dioxane . . . . . 0,4 mg/l  
 toluene . . . . . 0,9 mg/l  
 pyridine . . . . . 1 mg/l  
 n-Butanol . . . . . 1 mg/l  
 butyl acetate . . . . . 1 mg/l  
 ethylbenzene . . . . . 1 mg/l  
 p-Xylene . . . . . 1 mg/l  
 m-Xylene . . . . . 1 mg/l  
 o-Xylene . . . . . 1 mg/l  
 benzene (G.C.) . . . . . absence

ART. NO.	VOLUME	CONTAINER
DI10741000	1 l	0
DI10742500	2,5 l	0

## DI1076 N,N-Dimethylformamide, standard substance for GC



assay ..... 99,9%  
 over ramp ..... 60°C, 6°C/min 160°C, 20°C/min 220°C  
 identity ..... IR

ART. NO.	VOLUME	CONTAINER
DI10760005	5 ml	1

## DI1063 N,N-Dimethylformamide, 99,8%, anhydrous (max. 0,005% H<sub>2</sub>O)



assay (G.C.) ..... min. 99,8 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/20°) ..... 0,949 - 0,952  
 appearance ..... clear  
 colour (Hazen) ..... max. 10  
 acidity ..... max. 0,0005 meq/g  
 alkalinity ..... max. 0,003 meq/g  
 aluminium (Al) ..... max. 0,5 ppm  
 barium (Ba) ..... max. 0,1 ppm  
 boron (B) ..... max. 0,02 ppm  
 cadmium (Cd) ..... max. 0,05 ppm  
 calcium (Ca) ..... max. 0,5 ppm

chromium (Cr) ..... max. 0,02 ppm  
 cobalt (Co) ..... max. 0,02 ppm  
 copper (Cu) ..... max. 0,02 ppm  
 iron (Fe) ..... max. 0,1 ppm  
 lead (Pb) ..... max. 0,1 ppm  
 magnesium (Mg) ..... max. 0,1 ppm  
 manganese (Mn) ..... max. 0,02 ppm  
 nickel (Ni) ..... max. 0,02 ppm  
 tin (Sn) ..... max. 0,1 ppm  
 zinc (Zn) ..... max. 0,1 ppm  
 residue on evaporation ..... max. 0,001 %  
 water (K.F.) ..... max. 0,005 %

ART. NO.	VOLUME	CONTAINER
DI10630100	100 ml	1
DI10630500	500 ml	1
DI10631000	1 l	1

## DI1070 N,N-Dimethylformamide, peptide synthesis grade



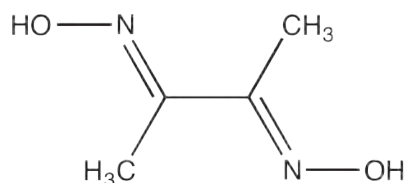
assay (G.C.) ..... min. 99,9 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,948 - 0,950  
 free acid (as HCOOH) ..... max. 0,001 %

free alkali (as (CH<sub>3</sub>)<sub>2</sub>NH) ..... max. 0,0005 %  
 residue on evaporation ..... max. 0,0003 %  
 water (K.F.) ..... max. 0,05 %

ART. NO.	VOLUME	CONTAINER
DI10701000	1 l	1
DI10702500	2,5 l	1

## DIMETHYLGLOXIME

### DI1080 Dimethylglyoxime, ExpertQ®, for analysis, ACS

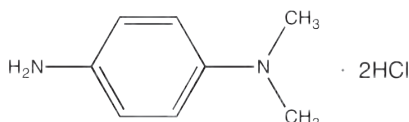


- Synonyms: 2,3-Butanedionedioxime, Diacetyl-dioxime
- C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>
- M = 116,12 g/mol
- CAS [95-45-4]
- EINECS-No.: 202-420-1
- Solub. in water: (20 °C): almost insoluble
- Melting point: 240 - 241 °C
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2928 00 90 90
- Applications: analytical chemistry, synthesis of organic products, for spectrophotometric determinations, for determination of: nickel.

assay (gravimetric) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 melting point ..... 238 - 242 °C  
 insoluble in C<sub>2</sub>H<sub>5</sub>OH ..... max. 0,02 %  
 residue on ignition ..... max. 0,05 %  
 suitability for precipitation of Ni ..... passes test

ART. NO.	VOLUME	CONTAINER
DI10800100	100 g	1
DI10800500	500 g	1

## N,N-DIMETHYL-P-PHENYLENEDIAMINE DIHYDROCHLORIDE



- Synonyms: 4-Amino-N,N-dimethylaniline dihydrochloride, Oxidase reagent
- C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>·2HCl
- M = 209,12 g/mol
- CAS [536-46-9]
- EINECS-No.: 208-635-7
- Solub. in water: (20 °C): soluble
- Melting point: 208 - 212 °C (decomposes)
- LD 50 (oral, rat): < 90 mg/kg
- ADR: 6.1 T2 II UN 2811

- IMDG: 6.1 II UN 2811
- IATA/ICAO: 6.1 II UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H330
- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a
- Tariff number: 2921 51 90 00
- Applications: analytical chemistry, laboratory reagent.
- Appearance: White-grey crystalline powder

### DI1010 N,N-Dimethyl-p-phenylenediamine dihydrochloride, ExpertQ®, for analysis



assay (acidimetric) ..... min. 99,5 %  
 identity (IR-spectrum) ..... passes test  
 Store below 4°C

sulfates (SO<sub>4</sub>) ..... max. 0,005 %  
 residue on ignition ..... max. 0,05 %

ART. NO.	VOLUME	CONTAINER
DI10100025	25 g	1

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

RE0065 N,N-Dimethyl-p-phenylenediamine dihydrochloride, for microbiology, according to Gordon & McLeod

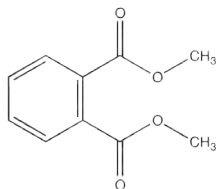


assay (acidimetric) ..... min. 99 %      oxidase test ..... passes test  
turbidity ..... max. 3,5 N.T.U.  
Store below 4°C

ART. NO.	VOLUME	CONTAINER
RE00650005	5 g	0

## DIMETHYL PHTHALATE

FT0055 Dimethyl phthalate, EssentQ®



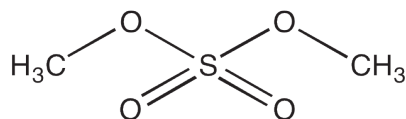
- Synonyms: Phthalic acid dimethyl ester
- $C_{10}H_{10}O_4$
- $M = 194,19$  g/mol
- CAS [131-11-3]
- EINECS-No.: 205-011-6
- Density: 1,19 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: 4 - 6 °C
- Boiling point: (5 hPa) 134 - 138 °C
- Flash pt. 150 °C
- Ignition temp.: 556 °C
- Vapour pressure: (20 °C) 0,008 hPa
- Refraction index: (n 25°C/D) 1,5137
- LD 50 (oral, rat): 6800 mg/kg
- Tariff number: 2917 34 00 90
- Applications: analytical chemistry, synthesis of organic products, in the cellulose industry, insect repellent.

assay (G.C.) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
density (20°/4°) ..... 1,188 - 1,191  
free acid [as  $C_6H_4(COOH)_2$ ] ..... max. 0,03 %  
water (K.F.) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
FT00551000	1 l	0

## DIMETHYL SULFATE

SU0119 Dimethyl sulfate, EssentQ®

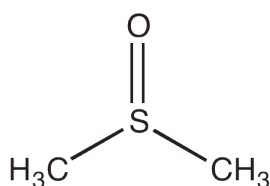


- Synonyms: Sulfuric acid dimethyl ester, Methyl sulfate
- $C_2H_6O_4S$
- $M = 126,13$  g/mol
- CAS [77-78-1]
- EINECS-No.: 201-058-1
- Density: 1,33 g/cm<sup>3</sup>
- Solub. in water: (18 °C): 28 g/l (hydrolysis reaction)
- Melting point: -32 °C
- Boiling point: 188,5 °C (decomposes)
- Flash pt. 83 °C
- Ignition temp.: 188 °C
- Vapour pressure: (30 °C) 0,35 hPa
- Refraction index: (n 20 °C/D) 1,3865
- LD 50 (oral, rat): 205 mg/kg
- EC-Index-No.: 016-023-00-4
- ADR: 6.1 TC1 | UN 1595
- IMDG: 6.1 | UN 1595
- IATA/ICAO: Forbidden UN 1595
- GHS-signal word: Danger
- GHS-H sentences: H301 - H330 - H350 - H341 - H314 - H317
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P320 - P405 - P501a
- Tariff number: 2920 90 10 90
- Applications: analytical chemistry, synthesis of organic products, in biochemistry.

assay (G.C.) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
density (20°/4°) ..... 1,325 - 1,327  
residue on ignition (as  $SO_4$ ) ..... max. 0,01 %  
water (K.F.) ..... max. 0,05 %

ART. NO.	VOLUME	CONTAINER
SU01191000	1 l	0

## DIMETHYL SULFOXIDE



- Synonyms: DMSO, Sulfinyl bis(methane), Methylsulfoxide, Methylsulfinylmethane
- $C_2H_6OS$
- $M = 78,13$  g/mol
- CAS [67-68-5]
- EINECS-No.: 200-664-3
- Density: 1,10 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 18,5 °C
- Boiling point: (33 hPa) 85 - 87 °C
- Flash pt. 95 °C

- Ignition temp.: 300 - 302 °C
- Vapour pressure: (20 °C) 0,6 hPa
- Refraction index: (n 20 °C/D) 1,48
- LD 50 (oral, rat): 14500 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2930 90 99 99
- Applications: analytical chemistry, solvents, synthesis of organic products.

A  
B  
C  
D  
E  
F  
G  
H  
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J  
K  
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M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## SU0150 Dimethyl sulfoxide, EssentQ®

assay (G.C.) ..... min. 99,5 %  
identity (IR-spectrum) ..... passes test  
density (20°/20°) ..... 1,100 - 1,104  
residue on evaporation ..... max. 0,01 %  
water (K.F.) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
SU01501000	1 l	0
SU01502500	2,5 l	0
SU0150005P	5 l	0

ART. NO.	VOLUME	CONTAINER
SU0150025P	25 l	0
SU0150025A	25 l	0

## SU0151 Dimethyl sulfoxide, extra pure, Pharpur®, Ph Eur, USP

assay ..... min. 99,9 %  
identification ..... passes test  
density (20°/20°) ..... 1,100 - 1,104  
density (25°/25°) ..... 1,095 - 1,101  
refractive index n<sub>20</sub>/D ..... 1,478 - 1,480  
refractive index n<sub>25</sub>/D ..... 1,4755 - 1,4775  
acidity ..... passes test  
freezing point ..... min. 18,3 °C  
related substances ..... max. 0,1 %  
residue on evaporation ..... max. 0,01 %  
water (K.F.) ..... max. 0,1 %

max. absorbance in a 1,0 cm cell at wavelength A (AU)  
275 nm ..... 0,20  
285 nm ..... 0,20  
295 nm ..... 0,20  
absorbance ratio 285/275 nm ..... max. 0,65  
absorbance ratio 295/275 nm ..... max. 0,45  
absorbance 270 - 350nm ..... passes test  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.

ART. NO.	VOLUME	CONTAINER
SU01511000	1 l	0
SU01512500	2,5 l	0
SU0151005P	5 l	0
SU0151025A	25 l	0
SU0151200L	200 l	0

## SU0153 Dimethyl sulfoxide, ExpertQ®, for analysis, ACS

assay (G.C.) ..... min. 99,9 %  
identity (IR-spectrum) ..... passes test  
density (20°/4°) ..... 1,099 - 1,101  
appearance ..... clear  
colour (Hazen) ..... max. 10  
acidity ..... max. 0,0002 meq/g

heavy metals (as Pb) ..... max. 1 ppm  
iron (Fe) ..... max. 1 ppm  
substances darkened by H<sub>2</sub>SO<sub>4</sub> ..... passes test  
residue on evaporation ..... max. 0,001 %  
water (K.F.) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
SU01531000	1 l	0
SU01532500	2,5 l	0
SU0153005P	5 l	0

## SU0155 Dimethyl sulfoxide, HPLC grade

assay (G.C.) ..... min. 99,8 %  
identity (IR-spectrum) ..... passes test  
density (20°/4°) ..... 1,099 - 1,101  
acidity ..... max. 0,0005 meq/g  
alkalinity ..... max. 0,0002 meq/g  
residue on evaporation ..... max. 0,0003 %  
water (K.F.) ..... max. 0,1 %

min. transmission/max. absorbance in a 1,0 cm cell at wavelength T(%) A (AU)  
268 nm ..... 20 % 0,699 AU  
280 nm ..... 50 % 0,301 AU  
320 nm ..... 90 % 0,046 AU  
Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
SU01551000	1 l	0
SU01552500	2,5 l	0

## SU0165 Dimethyl sulfoxide, GC head space grade

assay (G.C.) ..... min. 99,9 %  
refractive index n<sub>20</sub>/D ..... 1,477 - 1,480  
water (K.F.) ..... max. 0,04 %  
Packed under inert gas Suitable for residual solvents analysis Residual solvents are analysed according to guideline CPMP/ICH/283/95. Class 1 solvents excluded by production process. Class 2 and class 3 solvents likely to be present below following limits  
dichloromethane ..... 0,6 mg/l  
tert-Butyl methyl ether ..... 1 mg/l  
acetone ..... 1 mg/l  
methanol ..... 1 mg/l  
tetrahydrofuran ..... 0,7 mg/l  
n-Hexane ..... 0,3 mg/l  
ethyl acetate ..... 1 mg/l  
ethanol ..... 1 mg/l  
cyclohexane ..... 1 mg/l

acetonitrile ..... 0,4 mg/l  
2-propanol ..... 1 mg/l  
isopropyl acetate ..... 1 mg/l  
n-Propanol ..... 1 mg/l  
n-Heptane ..... 1 mg/l  
methylcyclohexane ..... 1 mg/l  
1,4-Dioxane ..... 0,4 mg/l  
toluene ..... 0,9 mg/l  
pyridine ..... 1 mg/l  
n-Butanol ..... 1 mg/l  
butyl acetate ..... 1 mg/l  
ethylbenzene ..... 1 mg/l  
p-Xylene ..... 1 mg/l  
m-Xylene ..... 1 mg/l  
o-Xylene ..... 1 mg/l  
benzene (G.C.) ..... absence

ART. NO.	VOLUME	CONTAINER
SU01651000	1 l	0
SU01652500	2,5 l	0

## SU0167 Dimethyl sulfoxide, standard substance for GC

assay ..... 99,9 %  
over ramp ..... 80°C, 7°C/min 220°C  
identity ..... IR

ART. NO.	VOLUME	CONTAINER
SU01670005	5 ml	0

## SU0158 Dimethyl sulfoxide, 99,5%, anhydrous (max. 0,005% H<sub>2</sub>O), with molecular sieves

assay (G.C.) ..... min. 99,5 %  
identity (IR-spectrum) ..... passes test  
density (20°/20°) ..... 1,100 - 1,104

acidity ..... passes test  
dimethyl sulfone (G.C.) ..... passes test  
water (K.F.) ..... max. 0,005 %

ART. NO.	VOLUME	CONTAINER
SU01581000	1 l	0



SU0159 Dimethyl sulfoxide, molecular biology grade



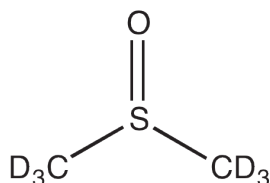
assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°4°) . . . . . 1,099 - 1,101

residue on evaporation . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 0,1 %  
DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
SU01590250	250 ml	0

## DIMETHYL SULFOXIDE-D6

SU0161 Dimethyl sulfoxide-d6, deuteration degree min. 99,8%, NMR spectroscopy grade, Spectrosol®



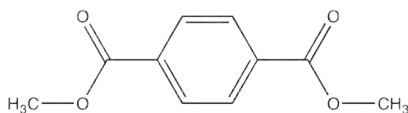
- Synonyms: Methylsulfoxide deuterated, DMSO deuterated, Hexadeuterodimethyl sulfoxide
- C<sub>2</sub>D<sub>6</sub>OS
- M = 84,17 g/mol
- CAS [2206-27-1]
- EINECS-No.: 218-617-0
- Density: 1,19 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 20,2 °C
- Boiling point: 190 °C
- Flash pt. 88 °C
- Ignition temp.: 270 °C
- Vapour pressure: (20 °C) 2,5 hPa
- Refraction index: (20 °C) 1,48
- LD 50 (oral, rat): 17500 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2845 90 10 00
- Applications: for nuclear magnetic resonance spectroscopy.

deuteration degree . . . . . min. 99,8 %  
water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) . . . . . max. 0,03 %  
performance test (NMR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
SU01610010	10 ml	0
SU0161.750	10x0,75ml	0

## DIMETHYL TEREPHTHALATE

TE0080 Dimethyl terephthalate, EssentQ®



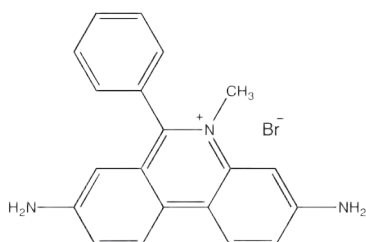
- Synonyms: DMT, Terephthalic acid dimethyl ester, Dimethyl-1,4-benzenedicarboxylate
- C<sub>10</sub>H<sub>10</sub>O<sub>4</sub>
- M = 194,19 g/mol
- CAS [120-61-6]
- EINECS-No.: 204-411-8
- Solub. in water: (20 °C): 0,036 g/l
- Melting point: 139 - 141 °C
- Boiling point: 282 °C
- Flash pt. 141 °C
- Ignition temp.: 520 °C
- Vapour pressure: (20 °C) < 1 hPa
- LD 50 (oral, rat): 14400 mg/kg
- Tariff number: 2917 37 00 00
- Applications: synthesis of organic products (herbicide), analytical chemistry, manufacture of adhesives, painting, manufacturing of inks, in the textile industry, manufacturing of synthetic resins.
- Appearance: White crystals

assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
TE00801000	1 kg	0

## DIMIDIUM BROMIDE

DI1115 Dimidium bromide, for determination of tensioactives



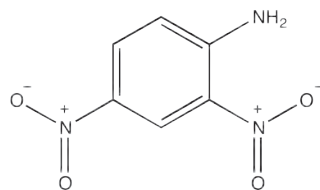
- Synonyms: 3,8-Diamino-5-methyl-6-phenylphenanthridinium bromide
- C<sub>20</sub>H<sub>18</sub>BrN<sub>3</sub>
- M = 380,30 g/mol
- CAS [518-67-2]
- EINECS-No.: 208-256-7
- Solub. in water: (20 °C): soluble
- Melting point: 242 °C
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2933 99 90 90
- Applications: analytical chemistry, for determination of: tensioactive substances.

assay (titration with HClO<sub>4</sub>) . . . . . min. 98 %  
Absorptivity (A1%/1 cm; λ max; methanol) . . . . . 155 - 175  
Absorption maximum (in methanol) . . . . . 523 - 520 nm  
loss on drying (110 °C) . . . . . max. 5 %

ART. NO.	VOLUME	CONTAINER
DI11150001	1 g	0
DI11150005	5 g	0

## 2,4-DINITROANILINE

DI1155 2,4-Dinitroaniline, EssentQ®



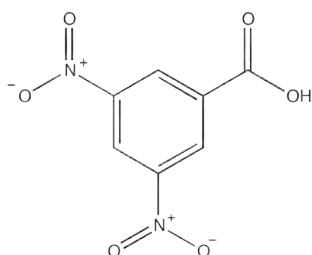
- Synonyms: 2,4-Dinitrobenzenamine
- $C_6H_5N_3O_4$
- M = 183,12 g/mol
- CAS [97-02-9]
- EINECS-No.: 202-553-5
- Solub. in water: (20 °C): 1 g/l
- Melting point: 177 - 180 °C
- Flash pt. 224 °C
- Vapour pressure: (20 °C) 13 hPa
- LD 50 (oral, rat): 285 mg/kg
- EC-Index-No.: 612-040-00-1
- ADR: 6.1 T2 II UN 1596
- IMDG: 6.1 II UN 1596
- IATA/ICAO: 6.1 II UN 1596
- GHS-signal word: Danger
- GHS-H sentences: H300 - H310 - H330 - H373 - H411
- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a
- Tariff number: 2921 42 10 90
- Applications: synthesis of organic products and manufacture of dyes.

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
DI11550025	25 g	0
DI11550100	100 g	0

## 3,5-DINITROBENZOIC ACID

AC0890 3,5-Dinitrobenzoic acid, EssentQ®

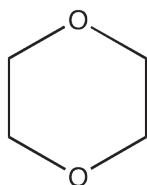


- $C_7H_4N_2O_6$
- M = 212,12 g/mol
- CAS [99-34-3]
- EINECS-No.: 202-751-1
- Solub. in water: (20 °C): sparingly soluble
- Melting point: 205 - 207 °C
- GHS-signal word: Warning
- GHS-H sentences: H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P304 + P340 - P405 - P501a
- Tariff number: 2916 39 00 90
- Applications: for the identification of: alcohols, alkyl halides; chromatography, synthesis of organic products.

assay (acidimetric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 residue on ignition . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
AC08900250	250 g	0

## 1,4-DIOXANE



- Synonyms: Glycoethylether, 1,4-Diethylene dioxide, 1,4-Dioxacyclohexane
- $C_4H_8O_2$
- M = 88,11 g/mol
- CAS [123-91-1]
- EINECS-No.: 204-661-8
- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 12 °C
- Boiling point: 101,5 °C
- Flash pt. 11 °C
- Ignition temp.: 300 °C
- Vapour pressure: (20 °C) 41 hPa

- Dielectric const.: (25 °C) 2,2
- LD 50 (oral, rat): 5200 mg/kg
- EC-Index-No.: 603-024-00-5
- ADR: 3 F1 II UN 1165
- IMDG: 3 II UN 1165
- IATA/ICAO: 3 II UN 1165
- GHS-signal word: Danger
- GHS-H sentences: H225 - H351 - H319 - H335 - EUH019 - EUH066
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2932 99 00 90
- Applications: solvents, analytical chemistry.

DI1287 1,4-Dioxane, EssentQ®, stabilized with 2,5 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,032 - 1,034  
 acidity . . . . . max. 0,001 meq/g  
 copper (Cu) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm

nickel (Ni) . . . . . max. 0,2 ppm  
 acetal (G.C.) . . . . . max. 0,1 %  
 acetaldehyde (G.C.) . . . . . max. 0,01 %  
 carbonyl compounds (as HCHO) . . . . . max. 0,1 %  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
 residue on evaporation . . . . . max. 0,002 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
DI12871000	1 l	0
DI12872500	2,5 l	0
DI1287005L	5 l	0
DI1287025A	25 l	0

DI1289 1,4-Dioxane, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur, stabilized with 2,5 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)

assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,032 - 1,034  
density (20°/20°) . . . . . 1,034 - 1,036  
colour (Hazen) . . . . . max. 10  
melting point . . . . . min. 11,0°C  
acidity . . . . . max. 0,0008 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
acetaldehyde (G.C.) . . . . . max. 0,005 %  
formaldehyde (G.C.) . . . . . max. 0,05 %  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
carbonyl compounds (as HCHO) . . . . . max. 0,01 %  
residue on evaporation . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
DI12891000	1 l	0
DI12892500	2,5 l	0
DI1289005L	5 l	0

DI1290 1,4-Dioxane, dried (max. 0,005% H<sub>2</sub>O), ExpertQ®, for analysis, stabilized with 2,5 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)

assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,032 - 1,034  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0008 meq/g  
melting point . . . . . min. 11,0°C  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
acetaldehyde (G.C.) . . . . . max. 0,005 %  
formaldehyde (G.C.) . . . . . max. 0,05 %  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
carbonyl compounds (as HCHO) . . . . . max. 0,01 %  
residue on evaporation . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
DI12901000	1 l	0

DI1298 1,4-Dioxane, standard substance for GC

assay . . . . . 99,9%  
over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200°C  
identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
DI12980005	5 ml	0

DI1288 1,4-Dioxane, 99,5%, anhydrous (max. 0,005% H<sub>2</sub>O), stabilized with 2,5 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)

assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/20°) . . . . . 1,034 - 1,036  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0008 meq/g  
melting point . . . . . min. 11,0 °C  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
acetaldehyde (G.C.) . . . . . max. 0,005 %  
formaldehyde (G.C.) . . . . . max. 0,05 %  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
carbonyl compounds (as HCHO) . . . . . max. 0,01 %  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
DI12880100	100 ml	0
DI12880500	500 ml	0
DI12881000	1 l	0

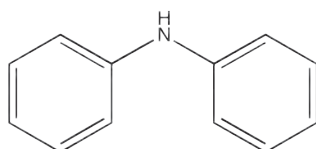
DI1294 1,4-Dioxane, 99%, anhydrous (max. 0,005% H<sub>2</sub>O), with molecular sieves, stabilized with 2,5 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)

assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,032 - 1,034  
acidity . . . . . max. 0,001 meq/g  
copper (Cu) . . . . . max. 0,2 ppm  
iron (Fe) . . . . . max. 0,5 ppm  
lead (Pb) . . . . . max. 0,2 ppm

nickel (Ni) . . . . . max. 0,2 ppm  
acetal (G.C.) . . . . . max. 0,1 %  
acetaldehyde (G.C.) . . . . . max. 0,01 %  
carbonyl compounds (as HCHO) . . . . . max. 0,1 %  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
DI12941000	1 l	0

## DIPHENYLAMINE



- Synonyms: N-Phenylbenzeneamine, N-Phenylaniline
- C<sub>12</sub>H<sub>11</sub>N
- M = 169,23 g/mol
- CAS [122-39-4]
- EINECS-No.: 204-539-4
- Solub. in water: (25 °C): ~ 0,05 g/l
- Melting point: 53 - 54 °C
- Boiling point: (13,3 hPa) ~ 159 °C
- Flash pt. 153 °C
- Ignition temp.: ~ 630 °C
- Vapour pressure: (20 °C) 0,0003 hPa
- LD 50 (oral, rat): 2000 mg/kg
- EC-Index-No.: 612-026-00-5

- ADR: 6.1 T2 II UN 2811
- IMDG: 6.1 II UN 2811
- IATA/ICAO: 6.1 II UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H331 - H373 - H400 - H410
- GHS-P sentences: P260 - P261 - P361 - P321 - P405 - P501a
- Tariff number: 2921 44 00 20
- Applications: analytical chemistry, synthesis of organic products, for determination of: oxidizing agents, manufacture of dyes.
- Appearance: White to light yellow flakes

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## DI0630 Diphenylamine, EssentQ®



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
DI06301000	1 kg	0

## DI0633 Diphenylamine, redox indicator, ExpertQ®, for analysis, ACS



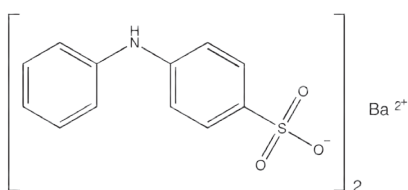
assay (titr. with HClO<sub>4</sub>) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in C<sub>2</sub>H<sub>5</sub>OH . . . . . max. 0,01 %  
melting point . . . . . 52,5 - 54,0°C  
nitrates (NO<sub>3</sub>) . . . . . passes test

iron (Fe) . . . . . max. 0,001 %  
aniline (TLC) . . . . . max. 0,1 %  
sensitivity to nitrates . . . . . passes test  
residue on ignition . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
DI06330100	100 g	0
DI06330250	250 g	0

## DIPHENYLAMINE-4-SULFONIC ACID, BARIUM SALT

### BA0060 Diphenylamine-4-sulfonic acid, barium salt, redox indicator, ExpertQ®, for analysis



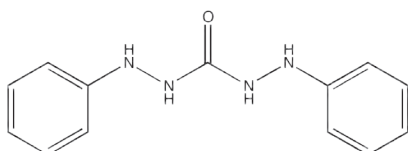
- Synonyms: Bariumdiphenylamine-4-sulfonate, 4-Anilinobenzene sulfonic acid barium salt
- C<sub>24</sub>H<sub>20</sub>BaN<sub>2</sub>O<sub>6</sub>S<sub>2</sub>
- M = 633,90 g/mol
- CAS [6211-24-1]
- EINECS-No.: 228-278-0
- Solub. in water: (20 °C): almost insoluble
- EC-Index-No.: 056-002-00-7
- ADR: 6.1 T5 III UN 1564
- IMDG: 6.1 III UN 1564
- IATA/ICAO: 6.1 III UN 1564
- GHS-signal word: Warning
- GHS-H sentences: H302 - H332
- GHS-P sentences: P261 - P264 - P270 - P304 + P340 - P330 - P501a
- Tariff number: 2921 44 00 90
- Applications: analytical chemistry, indicator, for determination of: nitrates.

identity (IR-spectrum) . . . . . passes test  
Absorption maximum λ (in H<sub>2</sub>O) . . . . . 290 - 295 nm  
Absorptivity (A1%/1 cm; λ max; 0,001 %, H<sub>2</sub>O, on dried sample) . . . . . 600 - 700  
suitability as redox indicator . . . . . passes test  
loss on drying (105 °C) . . . . . max. 5 %

ART. NO.	VOLUME	CONTAINER
BA00600005	5 g	0

## 1,5-DIPHENYL CARBAZIDE

### DI0650 1,5-Diphenylcarbazide, ExpertQ®, for analysis, ACS



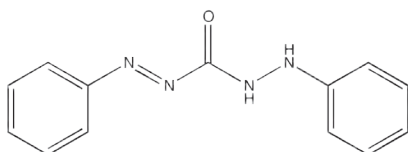
- Synonyms: 1,5-Diphenylcarbonic dihydrazide
- C<sub>13</sub>H<sub>14</sub>N<sub>4</sub>O
- M = 242,28 g/mol
- CAS [140-22-7]
- EINECS-No.: 205-403-7
- Solub. in water: (20 °C): slightly soluble
- Melting point: 170 - 172 °C
- Tariff number: 2928 00 90 90
- Applications: analytical chemistry, reagent for metals detection.

assay (HPLC) . . . . . approx. 98 %  
identity (IR-spectrum) . . . . . passes test  
melting point . . . . . 173 - 176°C  
solubility in aqueous acetone . . . . . passes test  
insoluble in C<sub>2</sub>H<sub>5</sub>OH . . . . . passes test  
sensitivity to chromates . . . . . passes test  
residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
DI06500025	25 g	0
DI06500100	100 g	0

## 1,5-DIPHENYL CARBAZONE

### DI0660 1,5-Diphenylcarbazone, ExpertQ®, for analysis



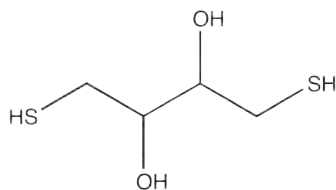
- Synonyms: Phenyl diazenecarboxylic acid 2-phenylhydrazide, Phenylazoformic acid 2-phenylhydrazide
- C<sub>13</sub>H<sub>12</sub>N<sub>2</sub>O
- M = 240,27 g/mol
- CAS [538-62-5]
- EINECS-No.: 208-698-0
- Solub. in water: (20 °C): insoluble
- Melting point: 153 - 158 °C (decomposes)
- Tariff number: 2928 00 90 90
- Applications: analytical chemistry, laboratory reagent, for the detection of: mercury.

assay (HPLC) . . . . . 35 - 40 %  
identity (IR-spectrum) . . . . . passes test  
melting point . . . . . 153 - 158°C  
solubility in acetone . . . . . passes test  
insoluble in C<sub>2</sub>H<sub>5</sub>OH . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
suitability for determination of Hg . . . . . passes test

ART. NO.	VOLUME	CONTAINER
DI06600005	5 g	0

## 1,4-DITHIOTHREITOL

DI1360 1,4-Dithiothreitol, molecular biology grade



- Synonyms: DTT, Cleland's reagent
- $C_4H_{10}O_2S_2$
- $M = 154,24$  g/mol
- CAS [3483-12-3]
- EINECS-No.: 222-468-7
- Solub. in water: (20 °C): soluble
- Melting point: 40 - 43 °C
- LD 50 (oral, rat): 400 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P501a
- Tariff number: 2930 90 99 99
- Applications: for microbiology.

assay (iodometric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 absorbance of an aqueous solution  
 0,1 M in a 1 cm cell at 260 nm . . . . . max. 0,5 AU  
 absorbance of an aqueous solution  
 0,1 M in a 1 cm cell at 280 nm . . . . . max. 0,1 AU  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
DI13600001	1 g	0
DI13600010	10 g	0

## DOCTOR SOLUTION (SODIUM PLUMBITE)

SO1012 Doctor solution (sodium plumbite), according to ASTM D235, reagent for sulfides



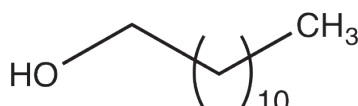
- Density: 1,15 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C5 II UN 3266
- IMDG: 8 II UN 3266
- IATA/ICAO: 8 II UN 3266
- GHS-signal word: Danger
- GHS-H sentences: H360Df - H373 - H314 - H411 - EUH201
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for the detection of: sulfides.  
 alkaline aqueous solution saturated with PbO. composition (in 1 l. distilled water):  
 sodium hydroxide (NaOH) . . . . . 125 g  
 lead (II) oxide (PbO) . . . . . saturated  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO10121000	1 l	0
SO1012005P	5 l	0
SO1012010C	10 l	0

## 1-DODECANOL

AL0330 1-Dodecanol, EssentQ<sup>®</sup>



- Synonyms: Dodecyl alcohol, Lauryl alcohol
- $C_{12}H_{26}O$
- $M = 186,34$  g/mol
- CAS [112-53-8]
- EINECS-No.: 203-982-0
- Density: 0,83 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: 22 - 24 °C
- Boiling point: 258 - 265 °C
- Flash pt. 119 °C
- Ignition temp.: 275 °C
- LD 50 (oral, rat): 12800 mg/kg
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning
- GHS-H sentences: H400 - H315
- GHS-P sentences: P280 - P273 - P321 - P362 - P332 + P313 - P501a
- Tariff number: 2905 17 00 00
- Applications: laboratory reagent, synthesis of organic products.

assay (G.C.) . . . . . min. 97,5 %  
 identity (IR-spectrum) . . . . . passes test  
 residue on ignition . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AL03301000	1 l	0

## DPX

DPO050 DPX, mounting medium for histology



- Density: 0,94 g/cm<sup>3</sup>
- Flash pt. 8 °C
- Refraction index: (n 20°C/D) 1,52
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992
- IATA/ICAO: 3 II UN 1992
- GHS-signal word: Danger
- GHS-H sentences: H225 - H360Df - H304 - H373 - H315 - H336

- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: for histology, microscopy.
- Appearance: Clear, dense liquid

Synthetic balsam for inclusion in histology and microscopy techniques.

ART. NO.	VOLUME	CONTAINER
DPO0500100	100 ml	0
DPO0500500	500 ml	0



## EOSIN METHYLENE BLUE, ACCORDING TO MAY-GRÜNWARD

EO0055 Eosin methylene blue, according to May-Grünwald

- CAS [68988-92-1]
- EINECS-No.: 273-541-5
- Solub. in water: (20 °C): slightly soluble
- LD 50 (oral, rat): 1180 mg/kg (toxic component)
- Tariff number: 3204 19 00 90
- Applications: microscopy, colouring agent.

Absorption maximum  $\lambda_1$  ..... 645 - 651 nm  
 Absorption maximum  $\lambda_2$  ..... 520 - 525 nm  
 Absorptivity (A1%/1 cm;  $\lambda_1$  max; in methanol, 0,0005 %, on dried sample) ..... 1100 - 1350  
 Absorptivity (A1%/1 cm;  $\lambda_2$  max; in methanol; 0,0005 %, on dried sample) ..... 600 - 800  
 related substances (TLC) ..... passes test  
 suitability for microscopy ..... passes test

loss on drying (105 °C) ..... max. 10 %

ART. NO.	VOLUME	CONTAINER
EO00550025	25 g	0
EO00550100	100 g	0

## EOSIN METHYLENE BLUE, ACCORDING TO WRIGHT

EO0057 Eosin methylene blue, according to Wright

- Synonyms: Wright's eosin methylene blue
- CAS [68988-92-1]
- EINECS-No.: 273-541-5
- Solub. in water: (20 °C): insoluble
- LD 50 (oral, rat): 1180 mg/kg (toxic component)
- Tariff number: 3204 19 00 90
- Applications: analytical chemistry, for spectrophotometric determinations (for determination of: silver), for biology, indicator, microscopy.

pH (0,01%, methanol, 50%) ..... 6 - 7  
 Absorption maximum  $\lambda_1$  (in methanol) ..... 648 - 651 nm  
 Absorption maximum  $\lambda_2$  (in methanol) ..... 521 - 524 nm  
 Absorptivity (A1%/1 cm;  $\lambda_1$ , 0,0005% methanol, on dried sample) ..... 1200 - 1400  
 Absorptivity (A1%/1 cm;  $\lambda_2$ ; 0,0005% methanol, on dried sample) ..... 650 - 850  
 loss on drying (105°C) ..... max. 10%  
 suitability for microscopy ..... passes test

TLC test ..... passes test

ART. NO.	VOLUME	CONTAINER
EO00570025	25 g	0
EO00570100	100 g	0

## EOSIN METHYLENE BLUE SOLUTIONS

EO0056 Eosin methylene blue, solution according to May-Grünwald



- Synonyms: May-Grünwald's eosin methylene blue solution
- Density: 0,791 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Boiling point: ~ 65 °C
- Flash pt. 12 °C
- Ignition temp.: ~ 455 °C
- Vapour pressure: (20 °C) ~ 125 hPa
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992

- IATA/ICAO: 3 II UN 1992
- GHS-signal word: Danger
- GHS-H sentences: H225 - H331 - H370
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 3204 19 00 90
- Applications: microscopy.
- Appearance: Blue with red shades liquid

Absorption maximum  $\lambda_1$  ..... 645 - 651 nm  
 Absorption maximum  $\lambda_2$  ..... 520 - 525 nm  
 Absorbance (0,25 %  $\lambda_1$ , 1 cm) ..... 0,50 - 0,80  
 Absorbance (0,25 %  $\lambda_2$ , 1 cm) ..... 0,30 - 0,40  
 suitability for microscopy ..... passes test

ART. NO.	VOLUME	CONTAINER
EO00560500	500 ml	0
EO00562500	2,5 l	0

EO0058 Eosin methylene blue, solution according to Wright



- Synonyms: Wright's eosin methylene blue solution
- Density: 0,80 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 5 °C
- LD 50 (oral, rat): 5628 mg/kg
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992
- IATA/ICAO: 3 II UN 1992

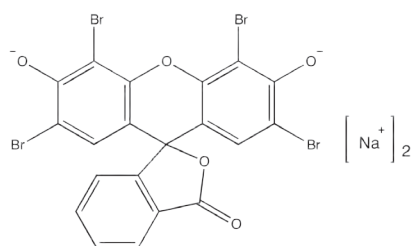
- GHS-signal word: Danger
- GHS-H sentences: H225 - H331 - H370
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 3204 19 00 90
- Applications: microscopy

suitability for histological stain ..... passes test

ART. NO.	VOLUME	CONTAINER
EO00580500	500 ml	0
EO00582500	2,5 l	0

## EOSIN YELLOWISH, C.I. 45380

EO0025 Eosin yellowish, C.I. 45380, for microscopy



- Synonyms: 2',4',5',7'-Tetrabromofluorescein, Eosin Y
- C<sub>20</sub>H<sub>2</sub>Br<sub>4</sub>Na<sub>2</sub>O<sub>5</sub>
- M = 691,86 g/mol
- CAS [17372-87-1]
- EINECS-No.: 241-409-6
- Solub. in water: (20 °C): 300 g/l
- LD 50 (oral, rat): 4700 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H332
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 3204 12 00 90
- Applications: analytical chemistry, indicator, for spectrophotometric determinations (for determination of: silver), for biology, microscopy.

assay (gravimetric) ..... min. 88 %  
 Absorption maximum  $\lambda$  (in H<sub>2</sub>O) ..... 515 - 518 nm  
 Absorptivity (A1%/1 cm; 0,0005 %  $\lambda$  max, H<sub>2</sub>O) ..... 1200 - 1400  
 related substances (TLC) ..... passes test  
 suitability for microscopy ..... passes test  
 loss on drying (110 °C) ..... max. 8 %

ART. NO.	VOLUME	CONTAINER
EO00250025	25 g	0
EO00250100	100 g	0
EO00250500	500 g	0

## EOSIN YELLOWISH, SOLUTIONS

EQ0026 Eosin Y solution 0,5% alcoholic for microscopy



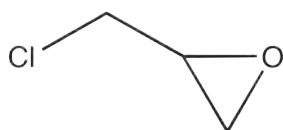
- Density: 0,89 g/cm<sup>3</sup>
- ADR: 3 F1 II UN 1170
- IMDG: 3 II UN 1170
- IATA/ICAO: 3 II UN 1170
- GHS-signal word: Danger
- GHS-H sentences: H225
- GHS-P sentences: P240 - P241 - P280 - P303 + P361 + P353 - P501a

appearance of solution . . . green with orange reflections  
Absorption maximum (in H<sub>2</sub>O) . . . . . 515 - 518 nm  
suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
EO00260500	500 ml	☐
EO00262500	2,5 l	☐

## EPICHLOROHYDRINE

EP0030 Epichlorohydrine, EssentQ®



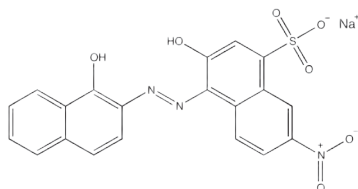
- Synonyms: 1-Chloro-2,3-epoxypropane, 2,3-Epoxypropyl chloride, 2-Chloromethyl oxirane
- C<sub>3</sub>H<sub>5</sub>ClO
- M = 92,53 g/mol
- CAS [106-89-8]
- EINECS-No.: 203-439-8
- Density: 1,18 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 60 g/l
- Melting point: -57,2 °C
- Boiling point: 116,5 °C
- Flash pt. 28 °C
- Ignition temp.: 385 °C
- Vapour pressure: (20 °C) 16,5 hPa
- Refraction index: (n 20 °C/D) 1,4375
- LD 50 (oral, rat): 90 mg/kg
- EC-Index-No.: 603-026-00-6
- ADR: 6.1 TF1 II UN 2023
- IMDG: 6.1 II UN 2023
- IATA/ICAO: 6.1 II UN 2023
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H331 - H350 - H314 - H226 - H317 -
- GHS-P sentences: P210 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2910 30 00 00
- Applications: synthesis of organic products, manufacturing of synthetic resins, painting, manufacturing of lacquers.

assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,178 - 1,182  
residue on evaporation . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
EP00301000	1 l	☐

## ERIOCHROME BLACK T, C.I. 14645

NE0045 Eriochrome black T, C.I. 14645, indicator for metal titration



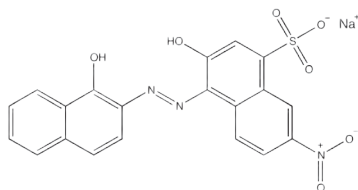
- Synonyms: Chrome black T, 2-Hydroxy-1-(1-hydroxy-2-naphthylazo)-6-nitronaphthalene-4-sulfonic acid sodium salt
- C<sub>20</sub>H<sub>12</sub>N<sub>3</sub>NaO<sub>7</sub>S
- M = 461,38 g/mol
- CAS [1787-61-7]
- EINECS-No.: 217-250-3
- Solub. in water: (20 °C): 50 g/l
- LD 50 (oral, rat): 17590 mg/kg
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning
- GHS-H sentences: H319 - H411
- GHS-P sentences: P280 - P273 - P264 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 3204 19 00 90
- Applications: analytical chemistry, indicator (metals), indicator of the hardness of water.

Absorption maximum λ (pH + 10,0) . . . . . 619 - 624 nm  
Absorptivity (A 1 %/1 cm; λ max;  
pH 10,0; on dried sample) . . . . . 270 - 370  
suitability as metal indicator . . . . . passes test  
loss on drying . . . . . max. 7 %

ART. NO.	VOLUME	CONTAINER
NE00450025	25 g	☐
NE00450100	100 g	☐

## ERIOCHROME BLACK T, SOLUTION 1%

NE0048 Eriochrome black T, solution 1%, for complexometry



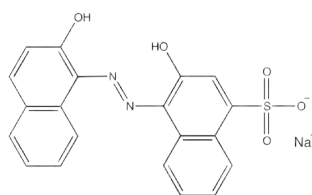
- $C_{20}H_{12}N_2NaO_5S$
- $M = 461,38 \text{ g/mol}$
- CAS [1787-61-7]
- EINECS-No.: 217-250-3
- Tariff number: 3204 19 00 90
- Applications: analytical chemistry, indicator of the hardness of water.

composition of 100 ml:  
 eriochrome black T ..... 1 g  
 ethanol absolute ..... 25 ml  
 triethanolamine ..... 75 ml  
 suitability for complexometry ..... passes test

ART. NO.	VOLUME	CONTAINER
NE00480100	100 ml	0

## ERIOCHROME BLUE-BLACK R, C.I. 15705

NE0035 Eriochrome blue-black R, C.I. 15705



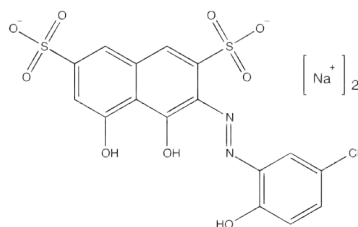
- Synonyms: 2-Hydroxy-1-(2-hydroxy-1-naphthylazo)-naphthalene-4-sulfonic acid sodium salt
- $C_{20}H_{13}N_2NaO_5S$
- $M = 416,39 \text{ g/mol}$
- CAS [2538-85-4]
- EINECS-No.: 219-810-2
- Solub. in water: (20 °C): ~ 20 g/l
- Tariff number: 2927 00 00 90
- Applications: analytical chemistry, indicator (metals).

Absorption maximum  $\lambda$  (pH 12,2) ..... 632 - 636 nm  
 Absorptivity (A1%/1 cm;  $\lambda$  max; 0,0015%, pH 12,2 on dried sample) ..... 200 - 300  
 suitability as indicator for metal titration ..... passes test  
 loss on drying (110 °C) ..... max. 10%

ART. NO.	VOLUME	CONTAINER
NE00350050	50 g	0

## ERIOCHROME BLUE SE, C.I. 16680

AZ0155 Eriochrome blue SE, C.I. 16680, indicator for metal titration



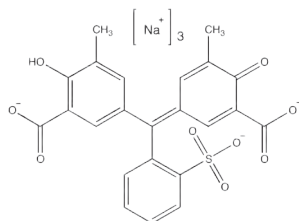
- Synonyms: 2-(4-Chloro-1-hydroxyphenyl-2-azo)-1,8-dihydroxynaphthalene-3,6-disulfonic acid disodium salt
- $C_{16}H_9ClN_2Na_2O_9S_2$
- $M = 518,82 \text{ g/mol}$
- CAS [1058-92-0]
- EINECS-No.: 213-894-4
- Solub. in water: (20 °C): ~ 30 g/l
- LD 50 (oral, rat): 8900 mg/kg
- Tariff number: 3204 19 00 90
- Applications: analytical chemistry, indicator (metals), in biochemistry.

Absorption maximum  $\lambda_1$  (methanol) ..... 526 - 530 nm  
 Absorption maximum  $\lambda_2$  (methanol) ..... 552 - 556 nm  
 Absorptivity (A1%/1 cm;  $\lambda$  max) ..... min. 320  
 Absorptivity (A1%/1 cm;  $\lambda_2$  max) ..... min. 320  
 loss on drying (110 °C) ..... max. 7 %  
 suitability as metal indicator ..... passes test

ART. NO.	VOLUME	CONTAINER
AZ01550005	5 g	0

## ERIOCHROME CYANINE R, C.I. 43820

ER0050 Eriochrome cyanine R, C.I. 43820, ExpertQ®, for analysis



- $C_{23}H_{15}Na_3O_9S$
- $M = 536,40 \text{ g/mol}$
- CAS [3564-18-9]
- EINECS-No.: 222-641-7
- Solub. in water: (20 °C): ~ 420 g/l
- Tariff number: 3204 19 00 90
- Applications: analytical chemistry, for determination of: aluminium (indicator).

identity (IR-spectrum) ..... passes test  
 Absorption maximum  $\lambda$  (buffer pH 7,0) ..... 434 - 440 nm  
 Absorptivity (A1%/1 cm;  $\lambda$  max.; 0,02 g/l buffer pH 7,0; on dried sample) ..... 130 - 200  
 suitability for determination of Al ..... passes test  
 loss on drying (105 °C) ..... max. 10 %

ART. NO.	VOLUME	CONTAINER
ER00500025	25 g	0
ER00500100	100 g	0

## ESBACH'S REAGENT

RE0004 Esbach's reagent

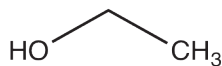
- Density: 0,987 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, for determination of: albumin.

Suitable for detection of protein.

ART. NO.	VOLUME	CONTAINER
RE00040500	500 ml	0

**ETHANOL ABSOLUTE**



- Synonyms: Ethyl alcohol, Methylcarbinol, Spirit, Spirit of wine
- C<sub>2</sub>H<sub>5</sub>OH
- M = 46,07 g/mol
- CAS [64-17-5]
- EINECS-No.: 200-578-6
- Density: 0,79 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -114,5 °C
- Boiling point: 78,3 °C
- Flash pt. 12 °C
- Ignition temp.: 425 °C
- Vapour pressure: (20 °C) 59 hPa

- Dielectric const.: (25 °C) 24,3
- LD 50 (oral, rat): 6200 mg/kg
- EC-Index-No.: 603-002-00-5
- ADR: 3 F1 II UN 1170
- IMDG: 3 II UN 1170
- IATA/ICAO: 3 II UN 1170
- GHS-signal word: Danger
- GHS-H sentences: H225
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2207 10 00 90
- Applications: solvents, disinfectant, for pharmaceutical use, synthesis of organic products, perfumery.

**ET0002 Ethanol absolute, EssentQ®**



assay (G.C.) (v/v) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,789 - 0,790  
residue on evaporation . . . . . max. 0,005 %  
water (v/v) (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
ET00021000	1 l	Ⓟ
ET00022500	2,5 l	Ⓟ
ET0002005P	5 l	Ⓟ

ART. NO.	VOLUME	CONTAINER
ET0002010C	10 l	Ⓟ
ET0002025P	25 l	Ⓟ
ET0002025S	25 l	Ⓟ

**ET0006 Ethanol absolute, extra pure, Pharpur®, Ph Eur, BP, USP**



assay (G.C.) (v/v) . . . . . min. 99,5 %  
assay (G.C.) (w/w) . . . . . min. 99,2 %  
identification . . . . . passes test  
density (20°/20°) . . . . . 0,790 - 0,793  
appearance . . . . . clear and colourless  
acidity or alkalinity (as acetic acid) . . . . . max. 0,003 %  
colour (Hazen) . . . . . max. 10  
acetaldehyde + acetal (as CH<sub>3</sub>CHO) . . . . . max. 0,001 %  
benzene (G.C.) . . . . . max. 0,0002 %  
methanol (G.C.) . . . . . max. 0,02 %  
total of other impurities (G.C.) . . . . . max. 0,03 %  
reducing substances . . . . . passes test

residue on evaporation . . . . . max. 0,001 %  
absorbance in a 5,0 cm cell  
at 240 nm . . . . . max. 0,40  
between 250 and 260 nm . . . . . max. 0,30  
between 270 and 340 nm . . . . . max. 0,10  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
ET00061000	1 l	Ⓟ
ET00062500	2,5 l	Ⓟ
ET0006005P	5 l	Ⓟ
ET0006010C	10 l	Ⓟ
ET0006025A	25 l	Ⓟ
ET0006025L	25 l	Ⓟ
ET0006025P	25 l	Ⓟ
ET0006025S	25 l	Ⓟ

**ET0005 Ethanol absolute, ExpertQ®, for analysis, ACS, ISO**



assay (G.C.) (v/v) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,789 - 0,790  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0002 meq/g  
solubility in water . . . . . passes test  
acidity or alkalinity . . . . . max. 0,0003 %  
chlorides (Cl) . . . . . max. 0,00003 %  
nitrates (NO<sub>3</sub>) . . . . . max. 0,00003 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,00003 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,00003 %  
aluminium (Al) . . . . . max. 0,5 ppm  
antimony (Sb) . . . . . max. 0,02 ppm  
arsenic (As) . . . . . max. 0,02 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
beryllium (Be) . . . . . max. 0,02 ppm  
bismuth (Bi) . . . . . max. 0,02 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
gallium (Ga) . . . . . max. 0,02 ppm  
gold (Au) . . . . . max. 0,02 ppm  
indium (In) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
lithium (Li) . . . . . max. 0,02 ppm

magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
molybdenum (Mo) . . . . . max. 0,05 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
platinum (Pt) . . . . . max. 0,02 ppm  
silver (Ag) . . . . . max. 0,02 ppm  
thallium (Tl) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
titanium (Ti) . . . . . max. 0,02 ppm  
vanadium (V) . . . . . max. 0,02 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
zirconium (Zr) . . . . . max. 0,02 ppm  
formaldehyde . . . . . max. 0,0005 %  
furfural . . . . . passes test  
fusel oil . . . . . passes test  
acetaldehyde and acetal (G.C.) . . . . . max. 0,001 %  
acetone (G.C.) . . . . . max. 0,001 %  
isoamyl alcohol (G.C.) . . . . . max. 0,05 %  
benzene (G.C.) . . . . . max. 0,0002 %  
methanol (G.C.) . . . . . max. 0,01 %  
methyl ethyl ketone (G.C.) . . . . . max. 0,02 %  
2-propanol (G.C.) . . . . . max. 0,003 %  
higher alcohols (G.C.) . . . . . max. 0,01 %  
aldehydes (as CH<sub>3</sub>CHO) . . . . . max. 0,001 %  
carbonyl compounds (as CO) . . . . . max. 0,003 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
UV spectroscopy . . . . . passes test  
substances reducing KMnO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (v/v) (K.F.) . . . . . max. 0,1 %







ART. NO.	VOLUME	CONTAINER
ET00051000	1 l	Ⓟ
ET00052500	2,5 l	Ⓟ
ET0005005P	5 l	Ⓟ
ET0005007E	7 l	Ⓟ
ET0005025A	25 l	Ⓟ
ET0005025P	25 l	Ⓟ
ET0005025S	25 l	Ⓟ
ET0005200L	200 l	Ⓟ

## ET0015 Ethanol absolute, Multisolvant® HPLC grade ACS ISO UV-VIS



assay (G.C.) (v/v) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,789 - 0,791  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 solubility in water . . . . . passes test  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 chlorides (Cl) . . . . . max. 0,00003 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,00003 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00003 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00003 %  
 acetone (G.C.) . . . . . max. 0,001 %  
 benzene (G.C.) . . . . . max. 0,0002 %  
 isoamyl alcohol (G.C.) . . . . . max. 0,05 %  
 methanol (G.C.) . . . . . max. 0,01 %  
 methylethylketone (G.C.) . . . . . max. 0,02 %

2-propanol (G.C.) . . . . . max. 0,003 %  
 carbonyl compounds (as CO) . . . . . max. 0,03 %  
 higher alcohols (G.C.) . . . . . max. 0,01 %  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0004 %  
 water (v/v) (K.F.) . . . . . max. 0,1 %  
 liquid chromatography suitability  
 absorbance . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 220 nm . . . . . 55 % 0,260 AU  
 230 nm . . . . . 72 % 0,143 AU  
 245 nm . . . . . 90 % 0,046 AU  
 270 nm . . . . . 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm






ART. NO.	VOLUME	CONTAINER
ET00151000	1 l	
ET00152500	2,5 l	
ET00154000	4 l	
ET0015007E	7 l	
ET0015025S	25 l	
ET0015100S	100 l	

## ET0010 Ethanol absolute, gradient HPLC grade



assay (G.C.) (v/v) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,789 - 0,790  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 residue on evaporation . . . . . max. 0,0002 %  
 water (v/v) (K.F.) . . . . . max. 0,1 %


gradient grade (254 nm)  
 maximum background absorbance: 0,02 AU  
 maximum peak absorbance: 0,002 AU  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 205 nm . . . . . 20 % 0,699 AU  
 220 nm . . . . . 50 % 0,301 AU  
 245 nm . . . . . 90 % 0,046 AU  
 260 nm . . . . . 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm suitable for UPLC

ART. NO.	VOLUME	CONTAINER
ET00101000	1 l	
ET00102500	2,5 l	
ET0010007E	7 l	
ET0010025S	25 l	
ET0010030S	30 l	

## ET0032 Ethanol, standard substance for GC



assay . . . . . 99,9 %  
 over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200 °C  
 identity . . . . . IR




ART. NO.	VOLUME	CONTAINER
ET00320005	5ml	

## ET0011 Ethanol absolute, molecular biology grade

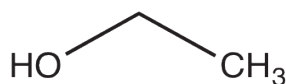


assay (G.C.) (v/v) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance . . . . . clear and colourless  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g

heavy metals (as Pb) . . . . . max. 1 ppm  
 water (v/v) (K.F.) . . . . . max. 0,1 %  
 DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
ET00110500	500 ml	
ET00111000	1 l	
ET00112500	2,5 l	

## ETHANOL, APPROX. 96%



- Synonyms: Ethyl alcohol, Methylcarbinol, Spirit, Spirit of wine
- C<sub>2</sub>H<sub>5</sub>OH
- M = 46,07 g/mol
- CAS [64-17-5]
- EINECS-No.: 200-578-6
- Density: 0,81 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -117 °C
- Boiling point: 78 °C
- Flash pt. 9 °C
- Ignition temp.: 425 °C
- Vapour pressure: (20 °C) ~ 59 hPa








- Dielectric const.: (25 °C) 24,3
- LD 50 (oral, rat): 6200 mg/kg (anhydrous substance)
- EC-Index-No.: 603-002-00-5
- ADR: 3 F1 II UN 1170
- IMDG: 3 II UN 1170
- IATA/ICAO: 3 II UN 1170
- GHS-signal word: Danger
- GHS-H sentences: H225
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2207 10 00 90
- Applications: solvents, disinfectant, for pharmaceutical use, synthesis of organic products, perfumery.

## ET0003 Ethanol 96% v/v, extra pure, Pharpur®, Ph Eur, BP



assay (v/v) . . . . . 95,1 - 96,9 %  
 assay (w/w) . . . . . 92,6 - 95,2 %  
 identification . . . . . passes test  
 density (20°/20°) . . . . . 0,805 - 0,812  
 appearance . . . . . clear and colourless  
 acidity or alkalinity . . . . . passes test  
 absorbance in a 5,0 cm cell  
 at 240 nm . . . . . max. 0,40  
 between 250 and 260 nm . . . . . max. 0,30  
 between 270 and 340 nm . . . . . max. 0,10  
 volatile impurities . . . . . passes test

residue on evaporation . . . . . max. 25 ppm  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
ET00031000	1 l	
ET00032500	2,5 l	
ET0003005P	5 l	
ET0003007E	7 l	
ET0003010C	10 l	
ET0003025P	25 l	
ET0003025S	25 l	



ET0004 Ethanol 96% v/v, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (G.C.) (v/v) . . . . . 95,1 - 96,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,804 - 0,807  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 solubility in water . . . . . passes test  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 chlorides (Cl) . . . . . max. 0,00003 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,00003 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00003 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00003 %  
 aluminium (Al) . . . . . max. 0,5 ppm  
 antimony (Sb) . . . . . max. 0,02 ppm  
 arsenic (As) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,02 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 gallium (Ga) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max. 0,02 ppm  
 indium (In) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm

lithium (Li) . . . . . max. 0,02 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,02 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 vanadium (V) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 formaldehyde . . . . . max. 0,0005 %  
 furfural . . . . . passes test  
 fusel oil . . . . . passes test  
 acetaldehyde and acetal (G.C.) . . . . . max. 0,001 %  
 acetone (G.C.) . . . . . max. 0,001 %  
 benzene (G.C.) . . . . . max. 0,0002 %  
 isoamyl alcohol (G.C.) . . . . . max. 0,05 %  
 methanol (G.C.) . . . . . max. 0,01 %  
 methylethylketone (G.C.) . . . . . max. 0,02 %  
 2-propanol (G.C.) . . . . . max. 0,003 %  
 aldehydes (as CH<sub>3</sub>CHO) . . . . . max. 0,001 %  
 carbonyl compounds (as CO) . . . . . max. 0,003 %  
 higher alcohols (G.C.) . . . . . max. 0,01 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (v/v) (K.F.) . . . . . 3,1 - 4,9 %

ART. NO.	VOLUME	CONTAINER
ET00041000	1 l	
ET00042500	2,5 l	
ET0004005P	5 l	
ET0004007E	7 l	
ET0004025A	25 l	
ET0004025P	25 l	
ET0004025S	25 l	
ET0004030S	30 l	

ET0013 Ethanol 96% v/v, Multisolvant® HPLC grade ACS UV-VIS



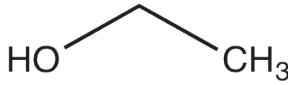
assay (G.C.) (v/v) . . . . . 95,1 - 96,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,804 - 0,807  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 chlorides (Cl) . . . . . max. 0,00003 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,00003 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00003 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00003 %  
 aluminium (Al) . . . . . max. 0,1 ppm  
 antimony (Sb) . . . . . max. 0,02 ppm  
 arsenic (As) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,01 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,02 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,3 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 gallium (Ga) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max. 0,02 ppm  
 indium (In) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,02 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 lithium (Li) . . . . . max. 0,02 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,02 ppm  
 silver (Ag) . . . . . max. 0,02 ppm

thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,01 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 formaldehyde . . . . . max. 0,0005 %  
 furfural . . . . . passes test  
 fusel oil . . . . . passes test  
 acetaldehyde and acetal (G.C.) . . . . . max. 0,001 %  
 acetone (G.C.) . . . . . max. 0,001 %  
 benzene (G.C.) . . . . . max. 0,0002 %  
 isoamyl alcohol (G.C.) . . . . . max. 0,05 %  
 methanol (G.C.) . . . . . max. 0,01 %  
 methylethylketone (G.C.) . . . . . max. 0,002 %  
 2-propanol (G.C.) . . . . . max. 0,003 %  
 aldehydes (as CH<sub>3</sub>CHO) . . . . . max. 0,001 %  
 carbonyl compounds (as CO) . . . . . max. 0,003 %  
 higher alcohols (G.C.) . . . . . max. 0,01 %  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0002 %  
 water (v/v) (K.F.) . . . . . 3,1 - 4,9 %  
 liquid chromatography suitability  
 absorbance . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 210 nm . . . . . 35 % 0,456 AU  
 220 nm . . . . . 55 % 0,260 AU  
 230 nm . . . . . 72 % 0,143 AU  
 250 nm . . . . . 90 % 0,046 AU  
 270 nm . . . . . 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
ET00131000	1 l	
ET00132500	2,5 l	
ET0013007E	7 l	
ET0013025S	25 l	

**ETHANOL, APPROX. 70%**

ET0001 Ethanol 70% v/v

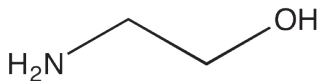


- Synonyms: Ethyl alcohol, Methylcarbinol, Spirit, Spirit of wine
- C<sub>2</sub>H<sub>5</sub>OH
- M = 46,07 g/mol
- CAS [64-17-5]
- EINECS-No.: 200-578-6
- Density: 0,89 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 27 °C
- EC-Index-No.: 603-002-00-5
- ADR: 3 F1 III UN 1170
- IMDG: 3 III UN 1170
- IATA/ICAO: 3 III UN 1170
- GHS-signal word: Warning
- GHS-H sentences: H226
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2208 90 99 11
- Applications: solvents, disinfectant, for pharmaceutical use, synthesis of organic products, perfumery.

assay (in volum) . . . . . 68 - 72 %  
 solubility in water . . . . . passes test  
 acidity . . . . . max. 0,0005 meq/g  
 alkalinity . . . . . max. 0,0005 meq/g  
 2-propanol, ketones. . . . . passes test  
 methanol . . . . . passes test  
 aldehydes (as CH<sub>3</sub>CHO). . . . . max. 0,005 %  
 fusel oil. . . . . passes test  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (v/v) (K.F.) . . . . . 28 - 32 %

ART. NO.	VOLUME	CONTAINER
ET0001005P	5 l	
ET0001025P	25 l	
ET0001025S	25 l	

**ETHANOLAMINE**



- Synonyms: 2-Aminoethanol, 2-Hydroxyethylamine, Monoethanolamine
- C<sub>2</sub>H<sub>7</sub>NO
- M = 61,08 g/mol
- CAS [141-43-5]
- EINECS-No.: 205-483-3
- Density: 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 10,5 °C
- Boiling point: 171 °C
- Flash pt. 93 °C
- Ignition temp.: 410 °C
- Vapour pressure: (20 °C) 0,5 hPa
- Refraction index: (n 20 °C/D) 1,4539
- LD 50 (oral, rat): 1720 mg/kg

- EC-Index-No.: 603-030-00-8
- ADR: 8 C7 III UN 2491
- IMDG: 8 III UN 2491
- IATA/ICAO: 8 III UN 2491
- GHS-signal word: Danger
- GHS-H sentences: H314 - H302 - H312 - H332 - H335 - H412
- GHS-P sentences: P260 - P280 - P303 + P361 + P353 - P304 + P340 - P305 + P351 + P338 - P310 - P405 - P501a
- Tariff number: 2922 11 00 00
- Applications: analytical chemistry, synthesis of organic products, for pharmaceutical use, emulsifier.
- Appearance: Clear liquid

ET0027 Ethanolamine, EssentQ®



assay (G.C.) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,016 - 1,019  
 residue on ignition . . . . . max. 0,01 %  
 water (K.F.) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
ET00271000	1 l	
ET00272500	2,5 l	

ET0028 Ethanolamine, ExpertQ®, for analysis, ACS



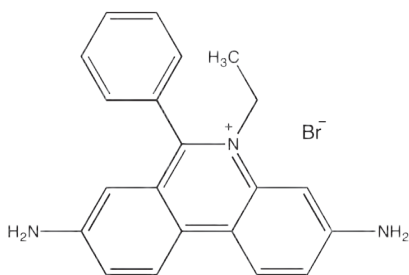
assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,014 - 1,016  
 colour (Hazen) . . . . . max. 15  
 aluminium (Al) . . . . . max. 0,5 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 diethanolamine (G.C.) . . . . . max. 0,1 %  
 triethanolamine (G.C.) . . . . . max. 0,1 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
ET00281000	1 l	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## ETHIDIUM BROMIDE

ET0108 Ethidium bromide, for biochemical purposes



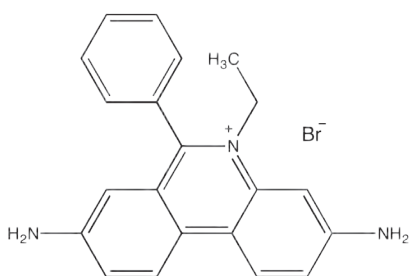
- Synonyms: 3,8-Diamino-5-ethyl-6-phenylphenanthridinium bromide, Homidium bromide
- $C_{21}H_{20}BrN_3$
- M = 394,32 g/mol
- CAS [1239-45-8]
- EINECS-No.: 214-984-6
- Solub. in water: (25 °C): ~ 40 g/l
- Melting point: 261 - 264 °C
- Flash pt. > 100 °C
- LD 50 (oral, rat): 1503 mg/kg
- ADR: 6.1 T2 I UN 2811
- IMDG: 6.1 I UN 2811
- IATA/ICAO: 6.1 I UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H330 - H341 - H302
- GHS-P sentences: P260 - P284 - P281 - P320 - P405 - P501a
- Tariff number: 2933 99 90 90
- Applications: in biochemistry, oxidizing agent.
- Appearance: Dark red solid

assay (titr. with  $HClO_4$ , ref. to dried sample) ..... min. 98 %  
Absorption maximum  $\lambda$  max (in methanol) 524 - 527 nm  
Absorptivity ( $A_{1\%}^{1\text{ cm}}$ ;  $\lambda$  max; methanol, 0,0005%, on dried sample) ..... 155 - 165  
related substances (TLC) ..... passes test  
loss on drying (130 °C, 4 h) ..... max. 7 %

ART. NO.	VOLUME	CONTAINER
ET01080001	1 g	0
ET01080010	10 g	0

## ETHIDIUM BROMIDE, SOLUTION 10 MG/ML

ET0109 Ethidium bromide, solution 10 mg/ml

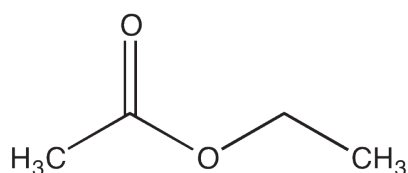


- Synonyms: 3,8-Diamino-5-ethyl-6-phenylphenanthridinium bromide
- $C_{21}H_{20}BrN_3$
- M = 394,32 g/mol
- CAS [1239-45-8]
- EINECS-No.: 214-984-6
- ADR: 6.1 T1 II UN 2810
- IMDG: 6.1 II UN 2810
- IATA/ICAO: 6.1 II UN 2810
- GHS-signal word: Warning
- GHS-H sentences: H341
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2933 99 90 90
- Applications: for electrophoresis, in biochemistry, for determination of: nucleic acids.

Absorption maximum  $\lambda$  (in  $H_2O$ ) ..... 478 - 482 nm  
Absorptivity ( $A_{1\%}^{1\text{ cm}}$ ;  $\lambda$  max; methanol, on dried sample) ..... 140 - 160  
suitability for electrophoresis ..... passes test

ART. NO.	VOLUME	CONTAINER
ET01090010	10 ml	0

## ETHYL ACETATE



- Synonyms: Acetic acid ethyl ester, Acetic ether
- $C_4H_8O_2$
- M = 88,10 g/mol
- CAS [141-78-6]
- EINECS-No.: 205-500-4
- Density: 0,90 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 85,3 g/l
- Melting point: -83 °C
- Boiling point: 77 °C
- Flash pt. -4 °C
- Ignition temp.: 460 °C
- Vapour pressure: (20 °C) 97hPa
- Refraction index: (n 20 °C/D) 1,3723

- Dielectric const.: (25 °C) 6,0
- LD 50 (oral, rat): 5620 mg/kg
- EC-Index-No.: 607-022-00-5
- ADR: 3 F1 II UN 1173
- IMDG: 3 II UN 1173
- IATA/ICAO: 3 II UN 1173
- GHS-signal word: Danger
- GHS-H sentences: H225 - H319 - H336 - EUH066
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2915 31 00 00
- Applications: solvents, perfumery, photography.

AC0140 Ethyl acetate, EssentQ®



assay (G.C.) ..... min. 99,5 %  
identity (IR-spectrum) ..... passes test  
density (20°/20°) ..... 0,898 - 0,902  
acidity ..... passes test  
residue on evaporation ..... max. 0,001 %  
water (K.F.) ..... max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AC01401000	1 l	0
AC01402500	2,5 l	0
AC0140005L	5 l	0
AC0140005P	5 l	0
AC0140007E	7 l	0

ART. NO.	VOLUME	CONTAINER
AC0140025L	25 l	0
AC0140025P	25 l	0
AC0140025S	25 l	0
AC0140030S	30 l	0
AC0140200E	200 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## AC0143 Ethyl acetate, extra pure, Pharmapur®, Ph Eur, BP, NF



assay (G.C.) . . . . . 98,0 - 102,0 %  
 identification . . . . . passes test  
 density (20°/20°) . . . . . 0,898 - 0,902  
 density (25°/25°) . . . . . 0,894 - 0,898  
 refractive index n<sub>20</sub>/D . . . . . 1,370 - 1,373  
 appearance of solution . . . . . clear and colourless  
 acidity . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 related substances . . . . . passes test

residue on evaporation . . . . . max. 30 ppm  
 water (K.F.) . . . . . max. 0,1 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC01431000	1 l	
AC01432500	2,5 l	
AC0143005L	5 l	
AC0143025A	25 l	
AC0143025S	25 l	
AC0143200L	200 l	

## AC0145 Ethyl acetate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,900 - 0,902  
 density (20°/20°) . . . . . 0,898 - 0,902  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 boiling point . . . . . 76 - 78 °C  
 acidity . . . . . max. 0,0008 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 ethanol (G.C.) . . . . . max. 0,1 %  
 methanol (G.C.) . . . . . max. 0,1 %  
 methyl acetate (G.C.) . . . . . max. 0,1 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AC01451000	1 l	
AC01452500	2,5 l	
AC0145005P	5 l	
AC0145007E	7 l	
AC0145025S	25 l	
AC0145025P	25 l	
AC0145030S	30 l	

## AC0155 Ethyl acetate, Multisolvant® HPLC grade ACS ISO UV-VIS



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,900 - 0,902  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity or alkalinity . . . . . max. 0,0002 meq/g  
 aluminium (Al) . . . . . max. 0,1 ppm  
 barium (Ba) . . . . . max. 0,01 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,3 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,02 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm

tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,01 ppm  
 ethanol (G.C.) . . . . . max. 0,1 %  
 methanol (G.C.) . . . . . max. 0,1 %  
 methyl acetate (G.C.) . . . . . max. 0,1 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0002 %  
 water (K.F.) . . . . . max. 0,03 %  
 liquid chromatography suitability  
 absorbance . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at wavelength  
 T(%) A (AU)  
 255 nm . . . . . 20 % 0,699 AU  
 260 nm . . . . . 50 % 0,301 AU  
 263 nm . . . . . 80 % 0,097 AU  
 265 nm . . . . . 90 % 0,046 AU  
 280 nm . . . . . 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
AC01551000	1 l	
AC01552500	2,5 l	
AC01554000	4 l	
AC0155007E	7 l	
AC0155025S	25 l	

## AC0158 Ethyl acetate, LC-MS



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,900 - 0,902  
 alkalinity . . . . . max. 0,0002 meq/g  
 calcium (Ca) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 sodium (Na) . . . . . max. 0,1 ppm  
 residue on evaporation . . . . . max. 0,0005 %

water (K.F.) . . . . . max. 0,03 %  
 suitability for use in LC-MS . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at wavelength  
 T(%) A (AU)  
 255 nm . . . . . 20 % 0,699 AU  
 258 nm . . . . . 50 % 0,301 AU  
 265 nm . . . . . 90 % 0,046 AU  
 Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
AC01581000	1 l	
AC01582500	2,5 l	

## AC0148 Ethyl acetate, for GC residue analysis



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,900 - 0,902  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,02 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
AC01484000	4 l	
AC01481000	1 l	
AC01482500	2,5 l	
AC0148007E	7 l	
AC0148025S	25 l	

## AC0149 Ethyl acetate, GC ultra-trace analysis grade



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,900 - 0,902  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,02 %  
 Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl. Suita-

ble for highly volatile halogenated hydrocarbons trace analysis ECD, from dichloromethane to 1,2,4-trichlorobenzene, no peaks are obtained greater than 1 ng/ml as tetrachloromethane.

Suitable for pesticide and polycyclic aromatic hydrocarbons residue analysis. FID, from 1-octanol to 1-tetradecanol, no peaks are obtained greater than 5 ng/ml as 1-tetradecanol. No peaks are obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
AC01491000	1 l	0
AC01492500	2,5 l	0

## AC0137 Ethyl acetate, GC-MS



assay (G.C.) . . . . . min. 99,8 %  
 colour (Hazen) . . . . . max. 10  
 identity (IR-spectrum) . . . . . passes test  
 residue on evaporation . . . . . max. 3 ppm  
 water (K.F.) . . . . . max. 0,05 %

GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n-tetradecane standard)) max. 3,0 ng/ml (ppb). Suitable for residue analysis

ART. NO.	VOLUME	CONTAINER
AC01371000	1 l	0
AC01372500	2,5 l	0

## AC0138 Ethyl acetate, standard substance for GC



assay . . . . . 99,9%  
 over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200 °C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
AC01380005	5 ml	0

## AC0141 Ethyl acetate, 99,8%, anhydrous (max. 0,005% H<sub>2</sub>O), with molecular sieves



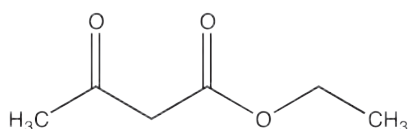
assay (G.C.) . . . . . min. 99,8 %  
 identification . . . . . passes test  
 density (20°/20°) . . . . . 0,898 - 0,902  
 acidity . . . . . passes test  
 copper (Cu) . . . . . max. 0,2 ppm  
 heavy metals (as Pb) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 0,5 ppm

lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 ethanol (G.C.) . . . . . max. 0,1 %  
 methanol (G.C.) . . . . . max. 0,1 %  
 methyl acetate (G.C.) . . . . . max. 0,01 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AC01411000	1 l	0

## ETHYL ACETOACETATE

### AC0287 Ethyl acetoacetate, EssentQ®

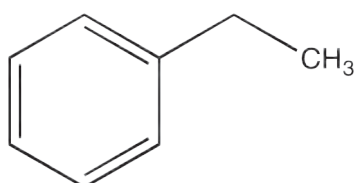


- Synonyms: EAA, Acetoacetic acid ethyl ester
- C<sub>8</sub>H<sub>10</sub>O<sub>3</sub>
- M = 130,14 g/mol
- CAS [141-97-9]
- EINECS-No.: 205-516-1
- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 125 g/l
- Melting point: -40 °C
- Boiling point: (26,6 hPa) 81,8 - 86,4°C
- Flash pt. 63°C
- Ignition temp.: 295 °C
- Vapour pressure: (20 °C) 1 hPa
- Refraction index: (n 20 °C/D) 1,4190
- LD 50 (oral, rat): 3980 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2918 30 00 90
- Applications: synthesis of organic products, for decolourization of liquids.

assay (G.C.) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,028 - 1,030  
 residue on ignition . . . . . max. 0,01 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC02871000	1 l	0

## ETHYL BENZENE



- Synonyms: Ethylbenzene
- C<sub>8</sub>H<sub>10</sub>
- M = 106,17 g/mol
- CAS [100-41-4]
- EINECS-No.: 202-849-4
- Density: 0,87 g/cm<sup>3</sup>
- Solub. in water: (20 °C): sparingly miscible
- Melting point: -95 °C
- Boiling point: 136 °C
- Flash pt. 15 °C
- Ignition temp.: 430 °C
- Vapour pressure: (20 °C) 4,9 hPa
- Dielectric const.: (30 °C) 2,3

- LD 50 (oral, rat): 3500 mg/kg
- EC-Index-No.: 601-023-00-4
- ADR: 3 F1 II UN 1175
- IMDG: 3 II UN 1175
- IATA/ICAO: 3 II UN 1175
- GHS-signal word: Danger
- GHS-H sentences: H225 - H332
- GHS-P sentences: P210 - P241 - P261 - P280 - P303 + P361 + P353 - P501a
- Tariff number: 2902 60 00 00
- Applications: analytical chemistry, chromatography, solvents.



## ET0110 Ethyl benzene, ExpertQ®, for analysis



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,866 - 0,867  
 acidity . . . . . max. 0,0003 meq/g  
 alkalinity . . . . . max. 0,0003 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,01 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 sulfur compounds (as S) . . . . . max. 0,003 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
ET01101000	1 l	0

## ET0113 Ethyl Benzene, standard substance for GC



assay . . . . . 99,7 %  
 over ramp . . . . . 60°C, 6°C/min 160°C, 20°C/min 220°C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
ET01130005	5 ml	0

## ETHYLENEDIAMINE



- Synonyms: 1,2-Ethanediamine, 1,2-Diaminoethane
- C<sub>2</sub>H<sub>8</sub>N<sub>2</sub>
- M = 60,10 g/mol
- CAS [107-15-3]
- EINECS-No.: 203-468-6
- Density: 0,90 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 11 °C
- Boiling point: 116 - 118 °C
- Flash pt. 36 °C
- Ignition temp.: ~ 400 °C
- Vapour pressure: (20 °C) 12 hPa
- Refraction index: (n 20 °C/D) 1,4540
- Dielectric const.: (18 °C) 16

- LD 50 (oral, rat): 76 mg/kg
- EC-Index-No.: 612-006-00-6
- ADR: 8 CF1 II UN 1604
- IMDG: 8 II UN 1604
- IATA/ICAO: 8 II UN 1604
- GHS-signal word: Danger
- GHS-H sentences: H334 - H314 - H226 - H302 - H312 - H317
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2921 21 00 00
- Applications: solvents, emulsifier, in antifreeze compositions, in lubricant compositions, in pharma industry.

## ET0135 Ethylenediamine, EssentQ®



assay (acidimetric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,896 - 0,898  
 residue on evaporation . . . . . max. 0,05 %  
 water (K.F.) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
ET01351000	1 l	0
ET01352500	2,5 l	0

ART. NO.	VOLUME	CONTAINER
ET0135005P	5 l	0
ET0135025A	25 l	0

## ET0137 Ethylenediamine, extra pure, Pharpur®, Ph Eur, BP, USP



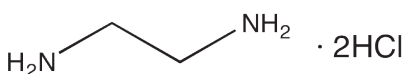
assay (acidimetric) . . . . . 98,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 carbonates . . . . . passes test  
 chlorides (Cl) . . . . . max. 100 ppm  
 ammonium and other bases . . . . . passes test

iron (Fe) . . . . . max. 10 ppm  
 residue on evaporation . . . . . max. 0,3 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
ET01370100	100 ml	0
ET01370250	250 ml	0
ET01371000	1 l	0

## ETHYLENEDIAMINE DIHYDROCHLORIDE

## ET0145 Ethylenediamine dihydrochloride, EssentQ®



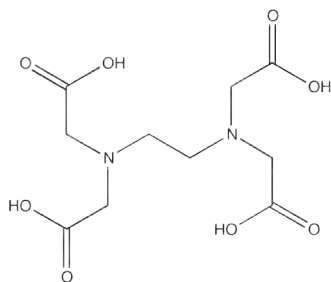
- Synonyms: 1,2-Diaminoethane dihydrochloride, Ethylenediammonium dichloride
- C<sub>2</sub>H<sub>8</sub>N<sub>2</sub>·2HCl
- M = 133,02 g/mol
- CAS [333-18-6]
- EINECS-No.: 206-369-6
- Solub. in water: (20 °C): 300 g/l
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H332
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 2921 21 00 00
- Applications: synthesis of organic products, laboratory reagent, for pharmaceutical use, cosmetics.

assay (argentometric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 4 - 5  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ET01450250	250 g	0
ET01451000	1 kg	0

## ETHYLENEDIAMINETETRAACETIC ACID, EDTA

AC0940 Ethylenediaminetetraacetic acid, EDTA, EssentQ®

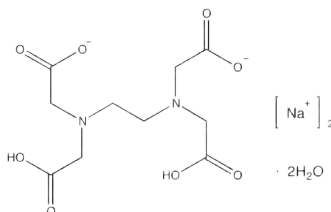


- Synonyms: Ethylenedinitrotetraacetic acid, Edetic acid, EDTA
- $C_{10}H_{16}N_2O_8$
- $M = 292,25$  g/mol
- CAS [60-00-4]
- EINECS-No.: 200-449-4
- Solub. in water: (20 °C): ~ 0,5 g/l
- Melting point: 220 °C (decomposes)
- Flash pt. > 100 °C
- Ignition temp.: > 200 °C
- Vapour pressure: (20 °C) < 0,013 hPa
- LD 50 (oral, rat): 2580 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2922 49 95 90
- Applications: analytical chemistry, antioxidant (in food industry), synthesis of organic products, for pharmaceutical use.

assay (complexometric) ..... min. 98 %  
identity (IR-spectrum) ..... passes test  
residue on ignition ..... max. 0,1 %  
water (K.F.) ..... max. 0,5 %

ART. NO.	VOLUME	CONTAINER
AC09400100	100 g	Ⓐ
AC09400500	500 g	Ⓐ
AC09401000	1 kg	Ⓐ
AC0940005P	5 kg	Ⓐ

## ETHYLENEDIAMINETETRAACETIC ACID, EDTA, DISODIUM SALT, DIHYDRATE



- Synonyms: Edetic acid disodium salt, Disodium dihydrogen ethylenediaminetetraacetate
- $C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$
- $M = 372,24$  g/mol
- CAS [6381-92-6]
- EINECS-No.: 205-358-3
- Solub. in water: (20 °C): 100 g/l
- Melting point: 252 °C (decomposes)
- LD 50 (oral, rat): 2000 mg/kg

- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2922 49 95 90
- Applications: analytical chemistry, sequestering agent.

AC0960 Ethylenediaminetetraacetic acid, EDTA, disodium salt, dihydrate, EssentQ®



assay (complexometric, referred to dried sample) ..... min. 98 %  
pH (5 %,  $H_2O$ ) ..... 4 - 5  
chlorides (Cl) ..... max. 0,02 %

sulfates ( $SO_4$ ) ..... max. 0,1 %  
heavy metals (as Pb) ..... max. 0,005 %  
iron (Fe) ..... max. 0,005 %  
water (K.F.) ..... 9 - 10 %

ART. NO.	VOLUME	CONTAINER
AC09601000	1 kg	Ⓐ
AC0960005P	5 kg	Ⓐ

AC0963 Ethylenediaminetetraacetic acid, EDTA, disodium salt, dihydrate, extra pure, Phampur®, Ph Eur, BP, USP



assay (complexometric, referred to dried sample) ..... 99,0 - 101,0 %  
assay (complexometric) ..... 98,5 - 101,0 %  
identification ..... passes test  
appearance of solution ..... clear and colourless  
pH (5 %,  $H_2O$ ) ..... 4,0 - 5,5  
calcium (Ca) ..... passes test

iron (Fe) ..... max. 80 ppm  
nitrioltriacetic acid [(HOCOCH<sub>2</sub>)<sub>3</sub>N] ..... max. 0,1 %  
loss on drying (150°C, 6 h) ..... 8,7 - 11,4 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC09630250	250 g	Ⓐ
AC09631000	1 kg	Ⓐ
AC0963005P	5 kg	Ⓐ
AC0963025P	25 kg	Ⓐ

AC0965 Ethylenediaminetetraacetic acid, EDTA, disodium salt, dihydrate, ExpertQ®, for analysis, ACS



assay (complexometric) ..... 99 - 101 %  
identity ..... passes test  
insoluble in water ..... max. 0,003 %  
appearance ..... white, crystalline powder  
insoluble in diluted ammonium hydroxide ..... max. 0,005 %  
pH (5 %,  $H_2O$ , 20°C) ..... 4,0 - 5,0  
chlorides (Cl) ..... max. 0,004 %  
cyanides (CN) ..... max. 0,001 %  
sulfates ( $SO_4$ ) ..... max. 0,01 %

calcium (Ca) ..... max. 0,001 %  
copper (Cu) ..... max. 1 ppm  
heavy metals (as Pb) ..... max. 5 ppm  
iron (Fe) ..... max. 5 ppm  
lead (Pb) ..... max. 0,001 %  
magnesium (Mg) ..... max. 5 ppm  
nitrioltriacetic acid [(HOCOCH<sub>2</sub>)<sub>3</sub>N] ..... max. 0,05 %  
loss on drying (150°C, 6 h) ..... 8,7 - 11,4 %  
residue on ignition ..... max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC09650100	100 g	Ⓐ
AC09650250	250 g	Ⓐ
AC09650500	500 g	Ⓐ
AC09651000	1 kg	Ⓐ
AC0965005P	5 kg	Ⓐ
AC0965025P	25 kg	Ⓐ

AC0967 Ethylenediaminetetraacetic acid, EDTA, disodium salt, dihydrate, molecular biology grade



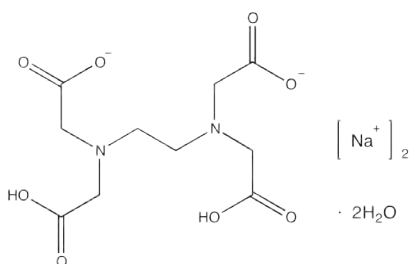
assay (complexometric, referred to dried sample) ..... min. 99 %  
absorbance of an aqueous solution 0,1 M in a 1 cm cell at 260 nm ..... max. 0,2 AU

absorbance of an aqueous solution 0,1 M in a 1 cm cell at 280 nm ..... max. 0,02 AU  
heavy metals (as Pb) ..... max. 5 ppm  
loss on drying (150 °C) ..... 9,0 - 10,0 %  
DNases, RNases, Proteases ..... non detected

ART. NO.	VOLUME	CONTAINER
AC09670100	100 g	Ⓐ
AC09671000	1 kg	Ⓐ

## ETHYLENEDIAMINETETRAACETIC ACID, EDTA, DISODIUM SALT, VOLUMETRIC SOLUTIONS




AC0970 Ethylenediaminetetraacetic acid, EDTA, disodium salt, solution 0,1 mol/l (0,2 N)



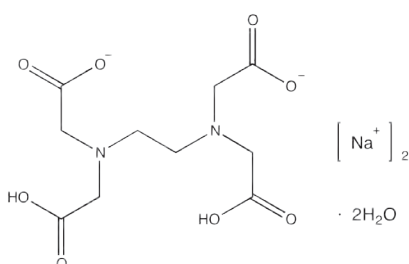
- $\text{C}_{10}\text{H}_{14}\text{N}_2\text{Na}_2\text{O}_8 \cdot 2\text{H}_2\text{O}$
- $M = 372,24 \text{ g/mol}$
- CAS [6381-92-6]
- EINECS-No.: 205-358-3
- Density:  $1,01 \text{ g/cm}^3$
- LD 50 (oral, rat): 2000 mg/kg (EDTA disodium salt)
- Tariff number: 2922 49 95 90
- Applications: analytical chemistry, sequestering agent, for metals titration.

factor . . . . . 0,999 - 1,001  
uncertainty  $\pm 0,001$

This volumetric solution was checked by means of potentiometric methods using Scharlau's calcium carbonate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC09701000	1 l	
AC0970005P	5 l	
AC0970010C	10 l	

AC0972 Ethylenediaminetetraacetic acid, EDTA, disodium salt, solution 0,05 mol/l (0,1 N)



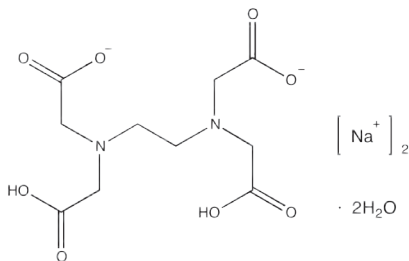
- $\text{C}_{10}\text{H}_{14}\text{N}_2\text{Na}_2\text{O}_8 \cdot 2\text{H}_2\text{O}$
- $M = 372,24 \text{ g/mol}$
- CAS [6381-92-6]
- EINECS-No.: 205-358-3
- Density:  $1,01 \text{ g/cm}^3$
- LD 50 (oral, rat): 2000 mg/kg (EDTA disodium salt)
- Tariff number: 2922 49 95 90
- Applications: analytical chemistry, sequestering agent, for metals titration.

factor . . . . . 0,999 - 1,001  
uncertainty  $\pm 0,001$

This volumetric solution was checked by means of potentiometric methods using Scharlau's calcium carbonate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC09721000	1 l	
AC0972010C	10 l	

AC0974 Ethylenediaminetetraacetic acid, EDTA, disodium salt, solution 0,025 mol/l (0,05 N)



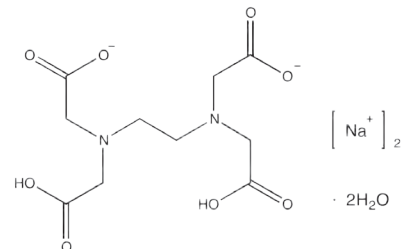
- $\text{C}_{10}\text{H}_{14}\text{N}_2\text{Na}_2\text{O}_8 \cdot 2\text{H}_2\text{O}$
- $M = 372,24 \text{ g/mol}$
- CAS [6381-92-6]
- EINECS-No.: 205-358-3
- Density:  $0,998 \text{ g/cm}^3$
- LD 50 (oral, rat): 2000 mg/kg (EDTA disodium salt)
- Tariff number: 2922 49 95 90
- Applications: analytical chemistry, sequestering agent, for metals titration.

factor . . . . . 0,999 - 1,001  
uncertainty  $\pm 0,001$

This volumetric solution was checked by means of potentiometric methods using Scharlau's calcium carbonate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC09741000	1 l	

AC0973 Ethylenediaminetetraacetic acid, EDTA, disodium salt, solution 0,02 mol/l (0,04 N)



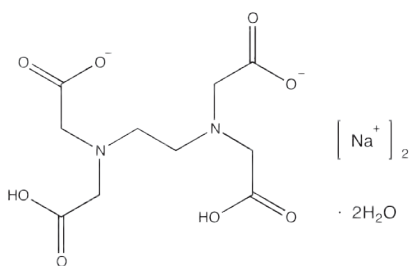
- $\text{C}_{10}\text{H}_{14}\text{N}_2\text{Na}_2\text{O}_8 \cdot 2\text{H}_2\text{O}$
- $M = 372,24 \text{ g/mol}$
- CAS [6381-92-6]
- EINECS-No.: 205-358-3
- Density:  $0,99 \text{ g/cm}^3$
- LD 50 (oral, rat): 2000 mg/kg (EDTA disodium salt)
- Tariff number: 2922 49 95 90
- Applications: analytical chemistry, sequestering agent, for metals titration.

factor . . . . . 0,999 - 1,001  
uncertainty  $\pm 0,001$

This volumetric solution was checked by means of potentiometric methods using Scharlau's calcium carbonate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC09731000	1 l	




AC0971 Ethylenediaminetetraacetic acid, EDTA, disodium salt, solution 0,01 mol/l (0,02 N)



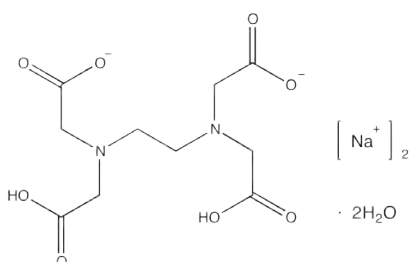
- $C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$
- $M = 372,24 \text{ g/mol}$
- CAS [6381-92-6]
- EINECS-No.: 205-358-3
- Density: 0,996 g/cm<sup>3</sup>
- Tariff number: 2922 49 95 90
- Applications: analytical chemistry, sequestering agent, for metals titration.

factor . . . . . 0,999 - 1,001  
uncertainty  $\pm 0,001$

This volumetric solution was checked by means of potentiometric methods using a zinc sulfate standard solution, that was also checked against Scharlau's calcium carbonate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC09711000	1 l	
AC0971005P	5 l	
AC0971010C	10 l	

AC0996 Ethylenediaminetetraacetic acid, EDTA, disodium salt, concentrated solution to prepare 1 l of solution 0,1 mol/l (0,2N)



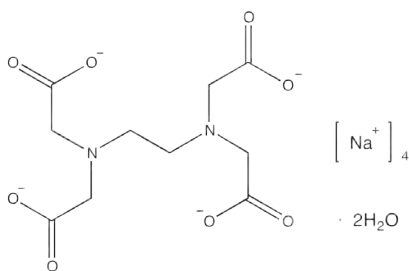
- $C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$
- $M = 372,24 \text{ g/mol}$
- CAS [6381-92-6]
- EINECS-No.: 205-358-3
- Density:  $\sim 1,14 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Tariff number: 2922 49 95 90
- Applications: analytical chemistry, sequestering agent, for metals titration.

amount of substance: 33,620 g  $[CH_2N(CH_2COOH)CH_2COONa]_2$   
37,224 g  $[CH_2N(CH_2COOH)CH_2COONa]_2$   
concentrated solution . . . . . 1 mol/l  $\pm 0,1 \%$

ART. NO.	VOLUME	CONTAINER
AC099600PA	u.	

**ETHYLENEDIAMINETETRAACETIC ACID, EDTA, TETRASODIUM SALT, DIHYDRATE**

AC0975 Ethylenediaminetetraacetic acid, EDTA, tetrasodium salt, dihydrate, EssentQ®

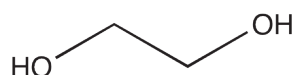


- Synonyms: Edetic acid tetrasodium salt, Tetrasodium ethylenediaminetetraacetate
- $C_{10}H_{12}N_2Na_4O_8 \cdot 2H_2O$
- $M = 416,21 \text{ g/mol}$
- CAS [10378-23-1]
- EINECS-No.: 200-573-9
- Solub. in water: (20 °C): soluble
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2922 49 95 90
- Applications: synthesis of organic products, analytical chemistry, titrant in volumetric analysis.

assay (complexometric, referred to dried sample) . . . . . min. 98 %  
pH (5 %, H<sub>2</sub>O) . . . . . 10,5 - 12  
water (K.F.). . . . . 7 - 10 %


ART. NO.	VOLUME	CONTAINER
AC09750500	500 g	
AC09751000	1 kg	

**ETHYLENE GLYCOL**







- Synonyms: 1,2-Ethandiol, Glycol
- $C_2H_6O_2$
- $M = 62,07 \text{ g/mol}$
- CAS [107-21-1]
- EINECS-No.: 203-473-3
- Density: 1,11 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 1000 g/l miscible
- Melting point: -13 °C
- Boiling point: (1013 hPa) 197 °C
- Flash pt. 111 °C
- Ignition temp.: 410 °C

- Vapour pressure: (20°C) 0,053 hPa
- Dielectric const.: (25 °C) 37,7
- LD 50 (oral. rat): 4700 mg/kg
- EC-Index-No.: 603-027-00-1
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2905 31 00 00
- Applications: analytical chemistry, solvents (in biochemistry), synthesis of organic products.

ET0164 Ethylene glycol, EssentQ®, packed in HDPE bottles 

assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 1,113 - 1,115  
 free acid (as CH<sub>3</sub>COOH) . . . . . max. 0,001 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 0,2 ppm






iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 diethylenglycol (G.C.) . . . . . max. 0,1 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
ET01641000	1 l	
ET01642500	2,5 l	
ET0164005P	5 l	
ET0164025P	25 l	

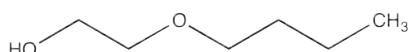

ET0166 Ethylene glycol, ExpertQ®, for analysis, Reag. Ph Eur 

assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 1,113 - 1,115  
 refractive index n<sub>20</sub>/D . . . . . 1,431 - 1,433  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,0002 %  
 iron (Fe) . . . . . max. 0,5 ppm

formaldehyde . . . . . max. 0,005 %  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on ignition . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
ET01661000	1 l	
ET01662500	2,5 l	
ET0166005P	5 l	
ET0166025P	25 l	
ET0166200P	200 l	

## ETHYLENE GLYCOL MONOBUTYL ETHER

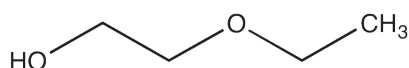
ET0175 Ethylene glycol monobutyl ether, EssentQ® 

- Synonyms: 2-Butoxyethanol, Butyl glycol
- C<sub>8</sub>H<sub>18</sub>O<sub>2</sub>
- M = 118,18 g/mol
- CAS [111-76-2]
- EINECS-No.: 203-905-0
- Density: 0,9 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -70 °C
- Boiling point: 170 - 172 °C
- Flash pt. 67 °C
- Ignition temp.: 230 °C
- Vapour pressure: (20 °C) 0,8 hPa
- Refraction index: (n 20 °C/D) 1,4193
- Dielectric const.: (20 °C) 9,4
- LD 50 (oral, rat): 1480 mg/kg
- EC-Index-No.: 603-014-00-0
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H332 - H315 - H319
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P322 - P501a
- Tariff number: 2909 43 00 00
- Applications: synthesis of organic products, solvents, manufacture of dyes, plasticizer, insecticide.




assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,900 - 0,901  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,2 %  
 residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ET01751000	1 l	

## ETHYLENE GLYCOL MONOETHYL ETHER



- Synonyms: 2-Ethoxyethanol, Ethyl glycol, Ethyl cellosolve
- C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>
- M = 90,12 g/mol
- CAS [110-80-5]
- EINECS-No.: 203-804-1
- Density: 0,93 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -100 °C
- Boiling point: 135 °C
- Flash pt. 40 °C
- Ignition temp.: 235 °C
- Vapour pressure: (20 °C) ~ 5 hPa
- Refraction index: (n 20 °C/D) 1,4075
- Dielectric const.: (20 °C) 11,9
- LD 50 (oral, rat): 2125 mg/kg
- EC-Index-No.: 603-012-00-X
- ADR: 3 F1 III UN 1171
- IMDG: 3 III UN 1171
- IATA/ICAO: 3 III UN 1171
- GHS-signal word: Danger
- GHS-H sentences: H331 - H360FD - H226 - H302
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P321 - P405 - P501a
- Tariff number: 2909 44 00 90
- Applications: synthesis of organic products, solvents, manufacturing of synthetic resins, manufacture of dyes.

ET0180 Ethylene glycol monoethyl ether, EssentQ®   

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,929 - 0,931  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %

residue on evaporation . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
ET01801000	1 l	
ET0180005P	5 l	



ET0182 Ethylene glycol monoethyl ether, ExpertQ®, for analysis, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,929 - 0,930  
 refractive index n<sub>20</sub>/D . . . . . 1,405 - 1,407  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,001 meq/g  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 acetaldehyde (CH<sub>3</sub>CHO) . . . . . max. 0,001 %  
 formaldehyde (HCHO) . . . . . max. 0,001 %  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,0003 %  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
ET01821000	1 l	0

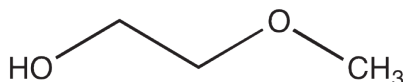
ET0181 Ethylene glycol monoethyl ether, standard substance for GC



assay . . . . . 99,7 %  
 over ramp . . . . . 60°C, 6°C/min 160°C, 20°C/min 220°C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
ET01810005	5 ml	0

## ETHYLENE GLYCOL MONOMETHYL ETHER



- Synonyms: 2-Methoxyethanol, Methyl glycol, Methyl cellosolve
- C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>
- M = 76,10 g/mol
- CAS [109-86-4]
- EINECS-No.: 203-713-7
- Density: 0,96 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -85 °C
- Boiling point: 124,5 °C
- Flash pt. 38 °C
- Ignition temp.: 285 °C
- Vapour pressure: (20 °C) 11 hPa
- Refraction index: (n<sub>20</sub> °C/D) 1,4021
- Dielectric const.: (20 °C) 15,4

- LD 50 (oral, rat): 2370 mg/kg
- EC-Index-No.: 603-011-00-4
- ADR: 3 F1 III UN 1188
- IMDG: 3 III UN 1188
- IATA/ICAO: 3 III UN 1188
- GHS-signal word: Danger
- GHS-H sentences: H360FD - H226 - H302 - H312 - H332 - H370 - H373
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2909 42 00 00
- Applications: analytical chemistry, synthesis of organic products, manufacturing of synthetic resins, manufacture of dyes, for the analysis of: aminoacids.
- Appearance: Clear liquid

ET0190 Ethylene glycol monomethyl ether, EssentQ®



assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,964 - 0,968  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
 residue on evaporation . . . . . max. 0,005 %

water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
ET01901000	1 l	0
ET0190005P	5 l	P
ET0190025P	25 l	P

ET0192 Ethylene glycol monomethyl ether, ExpertQ®, for analysis, ACS



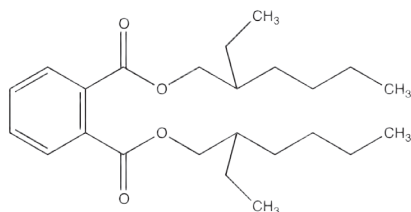
assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,964 - 0,968  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,001 meq/g  
 alkalinity . . . . . max. 0,0005 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 aldehydes (as CH<sub>3</sub>CHO) . . . . . max. 0,003 %  
 formaldehyde . . . . . max. 0,001 %  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,002 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,002 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
ET01921000	1 l	0
ET01922500	2,5 l	0
ET0192005P	5 l	P

## BIS-(2-ETHYLHEXYL) PHTHALATE

FT0025 Bis-(2-ethylhexyl) phthalate, EssentQ®

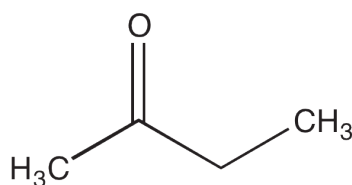


- Synonyms: Di-(2-ethylhexyl) phthalate, Dioctyl phthalate, Diisooctyl phthalate, Phthalic acid bis(2-ethylhexyl) ester, DOP
- $C_{28}H_{38}O_4$
- $M = 390,57 \text{ g/mol}$
- CAS [117-81-7]
- EINECS-No.: 204-211-0
- Density:  $0,98 \text{ g/cm}^3$
- Solub. in water: (20 °C):  $< 0,1 \text{ g/l}$
- Melting point:  $\sim -50 \text{ }^\circ\text{C}$
- Boiling point: (5 hPa)  $220 - 225 \text{ }^\circ\text{C}$
- Flash pt.  $200 \text{ }^\circ\text{C}$
- Ignition temp.:  $\sim 400 \text{ }^\circ\text{C}$
- Vapour pressure: (20 °C)  $< 0,01 \text{ hPa}$
- Refraction index: (n 20 °C/D)  $1,4862$
- LD 50 (oral, rat):  $30600 \text{ mg/kg}$
- GHS-signal word: Danger
- GHS-H sentences: H360FD
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2917 34 00 90
- Applications: analytical chemistry, synthesis of organic products.

assay (G.C.) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,983 - 0,985  
 residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
FT00251000	1 l	0

## ETHYL METHYL KETONE



- Synonyms: 2-Butanone, Methyl ethyl ketone, MEK
- $C_4H_8O$
- $M = 72,11 \text{ g/mol}$
- CAS [78-93-3]
- EINECS-No.: 201-159-0
- Density:  $0,80 \text{ g/cm}^3$
- Solub. in water: (20 °C):  $292 \text{ g/l}$
- Melting point:  $-86 \text{ }^\circ\text{C}$
- Boiling point:  $79,6 \text{ }^\circ\text{C}$
- Flash pt.  $-4 \text{ }^\circ\text{C}$
- Ignition temp.:  $505 \text{ }^\circ\text{C}$
- Vapour pressure: (20 °C)  $105 \text{ hPa}$
- Dielectric const.: (20 °C)  $18,5$

- LD 50 (oral, rat):  $2737 \text{ mg/kg}$
- EC-Index-No.: 606-002-00-3
- ADR: 3 F1 II UN 1193
- IMDG: 3 II UN 1193
- IATA/ICAO: 3 II UN 1193
- GHS-signal word: Danger
- GHS-H sentences: H225 - H319 - H336 - EUH066
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2914 12 00 00
- Applications: analytical chemistry, chromatography, synthesis of organic products, in food industry.

ME0454 Ethyl methyl ketone, EssentQ®



assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,804 - 0,846  
 free acid (as  $\text{CH}_3\text{COOH}$ ) . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
ME04541000	1 l	0
ME04542500	2,5 l	0
ME0454005L	5 l	0

ART. NO.	VOLUME	CONTAINER
ME0454005P	5 l	0
ME0454007E	7 l	0
ME0454025L	25 l	0

ME0457 Ethyl methyl ketone, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,804 - 0,806  
 density (20°/20°) . . . . . 0,805 - 0,807  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 boiling point . . . . . 79 - 80 °C  
 acidity . . . . . max. 0,0005 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 strontium (Sr) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 acetone (G.C.) . . . . . max. 0,05 %  
 2-butanol (G.C.) . . . . . max. 0,05 %  
 methanol (G.C.) . . . . . max. 0,05 %  
 2-methyl-2-propanol (G.C.) . . . . . max. 0,1 %  
 substances reducing  $\text{KMnO}_4$  . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ME04571000	1 l	0
ME04572500	2,5 l	0

ME0455 Ethyl methyl ketone, standard substance for GC

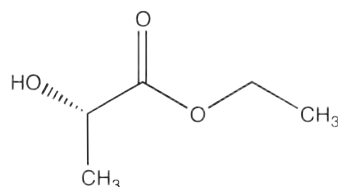


assay .....99,8%  
over ramp .....40°C, 5°C/min 120°C, 30°C/min 20°C  
identity..... IR

ART. NO.	VOLUME	CONTAINER
ME04550005	5 ml	0

## ETHYL LACTATE

LA0045 Ethyl lactate, EssentQ®



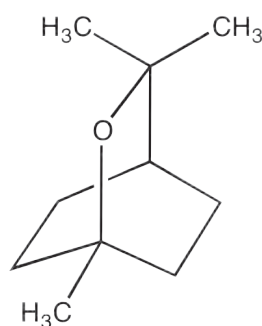
- Synonyms: L(-)-Lactic acid ethyl ester, (S)-(-)-2-Hydroxypropanoic acid ethyl ester
- $C_5H_{10}O_3$
- M = 118,14 g/mol
- CAS [687-47-8]
- EINECS-No.: 211-694-1
- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (25 °C): miscible
- Melting point: -25 °C
- Boiling point: 154 °C
- Flash pt. 46 °C
- Ignition temp.: 400 °C
- Vapour pressure: (20 °C) 1,6 hPa
- Refraction index: (n 25 °C) 1,411
- LD 50 (oral, rat): > 2000 mg/kg
- EC-Index-No.: 607-129-00-7 [2]
- ADR: 3 F1 III UN 1192
- IMDG: 3 III UN 1192
- IATA/ICAO: 3 III UN 1192
- GHS-signal word: Danger
- GHS-H sentences: H318 - H226 - H335
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2918 11 00 00
- Applications: synthesis of organic products, solvents.
- Appearance: Clear colourless to pale yellow liquid

assay (G.C.) .....min. 98 %  
identity (IR-spectrum) .....passes test  
density (20°/4°) ..... 1,032 - 1,034  
residue on evaporation .....max. 0,01 %

ART. NO.	VOLUME	CONTAINER
LA00451000	1 l	0

## EUCALYPTOL

EU0025 Eucalyptol, EssentQ®



- Synonyms: Cineole, 1,3,3-Trimethyl-2-oxabicyclo(2,2,2)-octane
- $C_{15}H_{26}O$
- M = 154,3 g/mol
- CAS [470-82-6]
- EINECS-No.: 207-431-5
- Density: 0,922 - 0,927 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Boiling point: 174 - 177 °C
- Flash pt. 49 °C
- LD 50 (oral, rat): 2480 mg/kg
- ADR: 3 F1 III UN 1993
- IMDG: 3 III UN 1993
- IATA/ICAO: 3 III UN 1993
- GHS-signal word: Warning
- GHS-H sentences: H226
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2909 20 00 90
- Applications: analytical chemistry, in food industry, for pharmaceutical use.
- Appearance: Colourless to slightly yellow clear liquid

assay (G.C.) .....min. 99 %

ART. NO.	VOLUME	CONTAINER
EU00250250	250 ml	0

## FEHLING'S SOLUTION, SOLUTION A

RE0005 Fehling's solution, solution A: copper(II) sulfate, for determination of sugar



- Density: 1,04 g/cm<sup>3</sup>
- ADR: 9 M6 III UN 3082
- IMDG: 9 III UN 3082
- IATA/ICAO: 9 III UN 3082
- GHS-H sentences: H411
- GHS-P sentences: P273 - P391 - P501a

- Tariff number: 3822 00 00 90
- Applications: analytical chemistry, for determination of: sugars, in pharma industry.

Suitable for determination of sugar

ART. NO.	VOLUME	CONTAINER
RE00050250	250 ml	0
RE00051000	1 l	0

## FEHLING'S SOLUTION, SOLUTION B

RE0006 Fehling's solution, solution B: potassium sodium tartrate, alkaline, for determination of sugar



- Density: 1,24 g/cm<sup>3</sup>
- ADR: 8 C5 II UN 1719
- IMDG: 8 II UN 1719
- IATA/ICAO: 8 II UN 1719
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

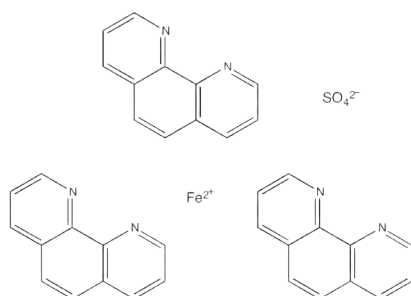
- Tariff number: 2918 13 00 90
- Applications: analytical chemistry, laboratory reagent, for determination of: sugars, in pharma industry.
- Appearance: Colourless clear liquid

Suitable for determination of sugar

ART. NO.	VOLUME	CONTAINER
RE00060250	250 ml	0
RE00061000	1 l	0

## FERROIN, SOLUTION 0,025 MOL/L

FE0529 Ferroin, solution 0,025 mol/l, redox indicator



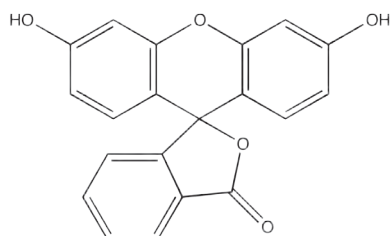
- Synonyms: 1,10-Phenanthroline iron (II) salt, Tris(1,10-phenanthroline) iron (II) sulfate
- C<sub>36</sub>H<sub>24</sub>FeN<sub>6</sub>O<sub>4</sub>S
- M = 692,53 g/mol
- CAS [14634-91-4]
- EINECS-No.: 238-676-6
- Density: 1,01 g/cm<sup>3</sup>
- EC-Index-No.: 613-092-00-8
- GHS-H sentences: H413
- GHS-P sentences: P273 - P501a
- Tariff number: 2933 99 90 90
- Applications: analytical chemistry, indicator, for determination of: metals (i.a.: nickel, silver).

Absorptivity (A 1 %/1 cm; 510 nm;  
pH= 7,0) ..... 260 - 300  
suitability as redox indicator ..... passes test

ART. NO.	VOLUME	CONTAINER
FE05290100	100 ml	0

## FLUORESCEIN, C.I. 45350

FL0113 Fluorescein, C.I. 45350, EssentQ®



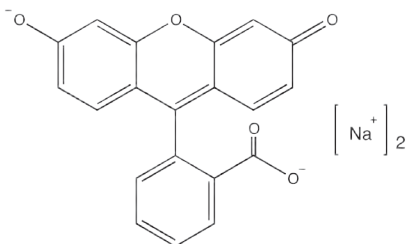
- Synonyms: 3',6'-Dihydroxyspiro [isobenzofuran-1(3H),9'-[9H]xanthen]-3-one
- C<sub>20</sub>H<sub>12</sub>O<sub>5</sub>
- M = 332,31 g/mol
- CAS [2321-07-5]
- EINECS-No.: 219-031-8
- Solub. in water: (20 °C): insoluble
- Melting point: 320 °C
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 3204 90 00 00
- Applications: analytical chemistry, laboratory reagent, indicator, for the detection of: bromine.

Absorption maximum λ (NaOH, 0,1 M) ..... 487 - 491 nm  
Absorptivity (A1%/1 cm; λ max.) ..... 2200 - 2500  
sensitivity as reagent for bromides ..... passes test  
suitability as adsorption indicator ..... passes test  
loss on drying (135 °C) ..... max. 5 %

ART. NO.	VOLUME	CONTAINER
FL01130025	25 g	0

## FLUORESCEIN SODIUM

FL0122 Fluorescein sodium, C.I. 45350, EssentQ®



- Synonyms: 3',6'-Dihydroxyspiro-[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, Resorcinolphthalein
- $C_{20}H_{10}Na_2O_5$
- M = 376,28 g/mol
- CAS [518-47-8]
- EINECS-No.: 208-253-0
- Solub. in water: (20 °C): 500 g/l
- Melting point: > 360 °C
- LD 50 (oral, rat): 6721 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H312 - H332
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 3204 90 00 00
- Applications: analytical chemistry, indicator.

assay (on dried sample) . . . . . min. 85 %  
identity (IR-spectrum) . . . . . passes test  
Absorption maximum  $\lambda$  (in H<sub>2</sub>O) . . . . . 488 - 491 nm  
arsenic (As) . . . . . max. 0,005 %  
cadmium (Cd) . . . . . max. 0,05 %  
copper (Cu) . . . . . max. 0,01 %  
lead (Pb) . . . . . max. 0,01 %  
loss on drying (110 °C) . . . . . max. 10 %

ART. NO.	VOLUME	CONTAINER
FL01220025	25 g	P
FL01220100	100 g	P
FL01220250	250 g	P
FL01221000	1 kg	P

## FOLIN-CIOCALTEU PHENOL REAGENT

RE0018 Folin-Ciocalteu, phenol reagent



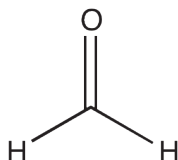
- Density: ~ 1,24 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, reagent for the following substances detection: phenols.
- Appearance: Yellow liquid

suitability for determination of phenol . . . . . passes test

ART. NO.	VOLUME	CONTAINER
RE00180250	250 ml	P

## FORMALDEHYDE, SOLUTION 37%



- Synonyms: Formalin solution, Formol, Methanal solution, Methyl aldehyde solution
- CH<sub>2</sub>O
- M = 30,03 g/mol
- CAS [50-00-0]
- EINECS-No.: 200-001-8
- Density: 1,09 g/cm<sup>3</sup>
- Melting point: < -15 °C
- Boiling point: 93 - 96 °C
- Flash pt. 62 °C
- Ignition temp.: ~ 300 °C (pure substance)
- Vapour pressure: 1,3 hPa (formaldehyde)
- LD 50 (oral, rat): 100 mg/kg (formaldehyde)

- EC-Index-No.: 605-001-00-5
- ADR: 8 C9 III UN 2209
- IMDG: 8 III UN 2209
- IATA/ICAO: 8 III UN 2209
- GHS-signal word: Danger
- GHS-H sentences: H311 - H331 - H370 - H351 - H314 - H302 - H317
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2912 11 00 00
- Applications: disinfectant, synthesis of organic products, in embalming liquids, analytical chemistry, photography, in pharma industry.

FO0009 Formaldehyde, solution 37% w/w, EssentQ®, stabilized with approx. 10% methanol



assay (acidimetric) . . . . . 34,5 - 38,0 %  
identity . . . . . passes test  
methanol (G.C.) (v/v) . . . . . 9,0 - 15,0 %  
density (20°/4°) . . . . . 1,080 - 1,101

ART. NO.	VOLUME	CONTAINER
FO00091000	1 l	P
FO0009005P	5 l	P

ART. NO.	VOLUME	CONTAINER
FO0009025P	25 l	P

FO0010 Formaldehyde, solution 37% w/w, extra pure, Phampur®, Ph Eur, BP, USP, stabilized with approx. 10% methanol



assay (acidimetric) . . . . . 34,5 - 38,0 %  
identification . . . . . passes test  
appearance of solution . . . . . colourless  
methanol (G.C.) (v/v) . . . . . 9,0 - 15,0 %  
acidity . . . . . passes test  
residue on ignition . . . . . max. 0,1 %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
FO00101000	1 l	P
FO00102500	2,5 l	P
FO0010005P	5 l	P
FO0010025P	25 l	P



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

FO0011 Formaldehyde, solution 37% w/w, ExpertQ®, for analysis, stabilized with approx. 10% methanol



assay (acidimetric) ..... 34,5 - 38,0 %  
identity ..... passes test  
density (20°/4°) ..... 1,080 - 1,101  
appearance of solution ..... colourless  
colour (Hazen) ..... max. 10  
methanol (G.C.) ..... 9,0 - 15,0 %  
acidity ..... passes test

titrable acid ..... max. 0,006 meq/g  
chlorides (Cl) ..... max. 5 ppm  
sulfates (SO<sub>4</sub>) ..... max. 0,002 %  
heavy metals ..... max. 5 ppm  
iron (Fe) ..... max. 5 ppm  
residue on ignition ..... max. 0,005 %

ART. NO.	VOLUME	CONTAINER
FO00111000	1 l	
FO00112500	2,5 l	
FO0011005P	5 l	
FO0011025P	25 l	

FO0012 Formaldehyde, solution 37% w/w, molecular biology grade, stabilized with approx. 10% methanol



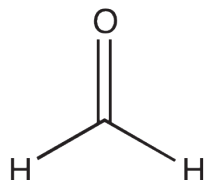
assay (acidimetric) ..... 34,5 - 38,0 %  
identity ..... passes test  
density (20°/4°) ..... 1,080 - 1,101  
methanol (G.C.) (v/v) ..... 9,0 - 15,0 %  
titrable acid ..... max. 0,006 meq/g  
heavy metals ..... max. 5 ppm

absorbance of an aqueous solution  
2 M in a 1 cm cell at 260 nm ..... max. 0,2 AU  
absorbance of an aqueous solution  
2 M in a 1 cm cell at 280 nm ..... max. 0,05 AU  
RNases ..... non detected

ART. NO.	VOLUME	CONTAINER
FO00120250	250 ml	
FO00121000	1 l	

## FORMALDEHYDE, SOLUTION 30 - 36% W/W

FO0018 Formaldehyde, solution 30 - 36% w/w, buffered at pH = 8,1, stabilized with methanol



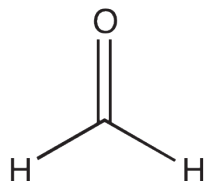
- Synonyms: Formalin solution, Formol, Methanal solution, Methyl aldehyde solution
- CH<sub>2</sub>O
- M = 30,03 g/mol
- CAS [50-00-0]
- EINECS-No.: 200-001-8
- Density: 1,07 g/cm<sup>3</sup>
- LD 50 (oral, rat): 100 mg/kg (formaldehyde)
- EC-Index-No.: 605-001-00-5
- ADR: 8 C9 III UN 2209
- IMDG: 8 III UN 2209
- IATA/ICAO: 8 III UN 2209
- GHS-signal word: Danger
- GHS-H sentences: H311 - H331 - H370 - H351 - H314 - H302 - H317
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2912 11 00 00

assay (iodometric) ..... 30 - 36 %  
pH ..... approx. 8,1

ART. NO.	VOLUME	CONTAINER
FO0018010C	10 l	

## FORMALDEHYDE, SOLUTION 10%

FO0014 Formaldehyde, solution 10% w/w, buffered at pH = 7 with carbonates, stabilized with approx. 3% of methanol



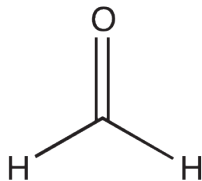
- Synonyms: Formalin solution, Formol, Methanal solution, Methyl aldehyde solution
- CH<sub>2</sub>O
- M = 30,03 g/mol
- CAS [50-00-0]
- EINECS-No.: 200-001-8
- Density: 1,02 g/cm<sup>3</sup>
- EC-Index-No.: 605-001-00-5
- GHS-signal word: Warning
- GHS-H sentences: H351 - H302 - H315 - H319 - H317 - H335 - H336
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2912 11 00 00
- Applications: analytical chemistry, in buffer solutions.

assay (acidimetric) ..... approx. 10 %  
pH ..... 6,8 - 7,2

ART. NO.	VOLUME	CONTAINER
FO00141000	1 l	
FO0014005P	5 l	
FO0014010C	10 l	





**FORMALDEHYDE, SOLUTION 3,5 - 4%**

FO0013 Formaldehyde, solution 3,5 - 4,0 % w/w, buffered at pH = 7 with carbonates, stabilized with approx. 1% of methanol 

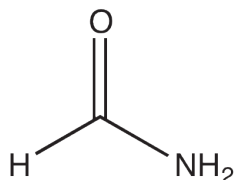


- Synonyms: Formalin solution, Formol, Methanal solution, Methyl aldehyde solution
- CH<sub>2</sub>O
- M = 30,03 g/mol
- CAS [50-00-0]
- EINECS-No.: 200-001-8
- Density: 1,003 g/cm<sup>3</sup>
- Boiling point: ~ 100 °C
- LD 50 (oral, rat): 100 mg/kg (pure substance)
- EC-Index-No.: 605-001-00-5
- GHS-signal word: Warning
- GHS-H sentences: H351 - H317
- GHS-P sentences: P261 - P280 - P281 - P321 - P405 - P501a
- Tariff number: 2912 11 00 00
- Applications: analytical chemistry, laboratory reagent, in buffer solutions, for biology.

assay (acidimetric) ..... 3,5 - 4,0 %  
pH ..... 6,8 - 7,2

ART. NO.	VOLUME	CONTAINER
FO00131000	1 l	
FO0013005P	5 l	
FO0013010C	10 l	
FO0013025P	25 l	

**FORMAMIDE**





- Synonyms: Methanamide, Methane amide, Carbamaldehyde, Formic acid amide
- CH<sub>3</sub>NO
- M = 45,04 g/mol
- CAS [75-12-7]
- EINECS-No.: 200-842-0
- Density: 1,13 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 2 °C
- Boiling point: 210 °C (decomposes)
- Flash pt. 175 °C
- Ignition temp.: 500 °C


- Vapour pressure: (20 °C) 0,08 hPa
- Dielectric const.: (25 °C) 109,5
- LD 50 (oral, rat): 5800 mg/kg
- GHS-signal word: Danger
- GHS-H sentences: H360D
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2924 19 00 90
- Applications: analytical chemistry, laboratory reagent, solvents, chromatography, synthesis of organic products.

FO0025 Formamide, EssentQ® 

assay (G.C.) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
density (20°/4°) ..... 1,132 - 1,135  
insoluble in water ..... passes test  
copper (Cu) ..... max. 5 ppm  
iron (Fe) ..... max. 5 ppm



lead (Pb) ..... max. 5 ppm  
nickel (Ni) ..... max. 5 ppm  
formic acid (HCOOH) ..... max. 0,02 %  
methanol (G.C.) ..... max. 0,2 %  
residue on ignition ..... max. 0,1 %  
water (K.F.) ..... max. 0,3 %

ART. NO.	VOLUME	CONTAINER
FO00251000	1 l	
FO00252500	2,5 l	

FO0026 Formamide, ExpertQ®, for analysis, ACS 

assay (as N) ..... min. 99,5 %  
identity (IR-spectrum) ..... passes test  
density (20°/4°) ..... 1,132 - 1,135  
colour (Hazen) ..... max. 10  
melting point ..... 2,0 - 3,0 °C  
chlorides (Cl) ..... max. 0,0001 %  
cadmium (Cd) ..... max. 1 ppm

copper (Cu) ..... max. 1 ppm  
iron (Fe) ..... max. 1 ppm  
lead (Pb) ..... max. 1 ppm  
zinc (Zn) ..... max. 1 ppm  
formic acid (HCOOH) ..... max. 0,02 %  
residue on ignition (600 °C) ..... max. 0,005 %  
water (K.F.) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
FO00261000	1 l	
FO00262500	2,5 l	

FO0027 Formamide, molecular biology grade 

assay (as N) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
density (20°/4°) ..... 1,132 - 1,135  
absorbance of an aqueous solution  
0,5 M in a 1 cm cell at 260 nm ..... max. 0,08 AU

absorbance of an aqueous solution  
0,5 M in a 1 cm cell at 270 nm ..... max. 0,05 AU  
absorbance of an aqueous solution  
0,5 M in a 1 cm cell at 280 nm ..... max. 0,03 AU  
heavy metals (as Pb) ..... max. 1 ppm  
DNases, RNases, Proteases ..... non detected

ART. NO.	VOLUME	CONTAINER
FO00270100	100 ml	

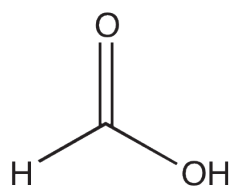
FO0028 Formamide, dried (max. 0,02% H<sub>2</sub>O), ExpertQ®, for analysis (Karl Fischer) 

assay (as N) ..... min. 99,5 %  
identity (IR-spectrum) ..... passes test  
density (20°/4°) ..... 1,132 - 1,135  
colour (Hazen) ..... max. 10  
chlorides (Cl) ..... max. 0,0001 %  
cadmium (Cd) ..... max. 1 ppm  
copper (Cu) ..... max. 1 ppm

iron (Fe) ..... max. 1 ppm  
lead (Pb) ..... max. 1 ppm  
zinc (Zn) ..... max. 1 ppm  
formic acid (HCOOH) ..... max. 0,02 %  
residue on ignition (600 °C) ..... max. 0,005 %  
water (K.F.) ..... max. 0,02 %

ART. NO.	VOLUME	CONTAINER
FO00281000	1 l	

## FORMIC ACID, 98 - 100%



- Synonyms: Methanoic acid, Formylic acid
- HCOOH
- M = 46,03 g/mol
- CAS [64-18-6]
- EINECS-No.: 200-579-1
- Density: 1,22 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: - 8 °C
- Boiling point: 101 °C
- Flash pt. 48 °C
- Ignition temp.: 480 °C
- Vapour pressure: (20 °C) 42 hPa
- Refraction index: (n 20 °C/D) 1,3714
- Dielectric const.: (16 °C) 58,5
- LD 50 (oral, rat): 730 mg/kg
- EC-Index-No.: 607-001-00-0
- ADR: 8 CF1 II UN 1779
- IMDG: 8 II UN 1779
- IATA/ICAO: 8 II UN 1779
- GHS-signal word: Danger
- GHS-H sentences: H314 - H226
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2915 11 00 00
- Applications: analytical chemistry, synthesis of organic products, in the rubber industry, acidifying agent, cosmetics.

## AC1086 Formic acid, 98 - 100%, EssentQ®



assay (acidimetric) . . . . . min. 98 %  
 appearance of solution . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,004 %  
 sulfites (SO<sub>3</sub>) . . . . . max. 0,002 %  
 arsenic (As) . . . . . max. 3 ppm  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 0,002 %  
 heavy metals (as Pb) . . . . . max. 5 ppm

iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 0,001 %  
 zinc (Zn) . . . . . max. 0,002 %  
 acetic acid (CH<sub>3</sub>COOH) . . . . . max. 0,4 %  
 oxalic acid (C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>) . . . . . max. 0,01 %  
 aldehydes . . . . . passes test  
 formaldehyde (HCHO) . . . . . max. 0,1 %  
 residue on evaporation . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AC10861000	1 l	0
AC10862500	2,5 l	0
AC1086005P	5 l	0

## AC1085 Formic acid, 98 - 100%, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (acidimetric) . . . . . min. 98 %  
 colour (Hazen) . . . . . max. 10  
 density (20°/20°) . . . . . 1,217 - 1,223  
 acetic acid (CH<sub>3</sub>COOH) . . . . . max. 0,05 %  
 dilution test . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,0005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %  
 sulfites (SO<sub>3</sub>) . . . . . passes test  
 aluminium (Al) . . . . . max. 0,05 ppm  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,001 %  
 barium (Ba) . . . . . max. 0,05 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,2 ppm  
 chromium (Cr) . . . . . max. 0,05 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 germanium (Ge) . . . . . max. 0,05 ppm

heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 2 ppm  
 lead (Pb) . . . . . max. 0,02 ppm  
 lithium (Li) . . . . . max. 0,02 ppm  
 magnesium (Mg) . . . . . max. 0,5 ppm  
 manganese (Mn) . . . . . max. 0,05 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,05 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,1 ppm  
 vanadium (V) . . . . . max. 0,05 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 zirconium (Zr) . . . . . max. 0,1 ppm  
 residue on evaporation . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AC10851000	1 l	0
AC10852500	2,5 l	0
AC1085005P	5 l	0

## AC1076 Formic acid, eluent additive for LC-MS



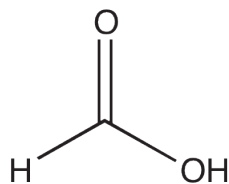
assay (acidimetric) . . . . . 98 - 100 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 barium (Ba) . . . . . max. 0,05 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,2 ppm  
 chromium (Cr) . . . . . max. 0,05 ppm  
 cobalt (Co) . . . . . max. 0,05 ppm  
 copper (Cu) . . . . . max. 0,05 ppm  
 iron (Fe) . . . . . max. 0,2 ppm  
 lead (Pb) . . . . . max. 0,05 ppm  
 lithium (Li) . . . . . max. 0,05 ppm

magnesium (Mg) . . . . . max. 0,5 ppm  
 manganese (Mn) . . . . . max. 0,05 ppm  
 nickel (Ni) . . . . . max. 0,05 ppm  
 molybdenum (Mo) . . . . . max. 0,05 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,05 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max. 0,05 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 suitability for use in LC-MS . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AC10760050	50 ml	0
AC10760100	100 ml	0

**FORMIC ACID, 90,1% ± 0,1%**

AC1083 Formic acid, solution 90,1% ± 0,1% w/w, ExpertQ®, for analysis

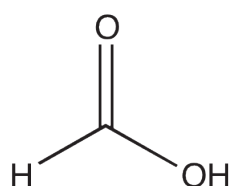


- Synonyms: Methanoic acid, Formylic acid
- HCOOH
- M = 46,03 g/mol
- CAS [64-18-6]
- EINECS-No.: 200-579-1
- Density: ~ 1,2 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -9 °C
- Boiling point: 107 °C
- Flash pt. 60 °C
- Ignition temp.: 485 °C
- LD 50 (oral, rat): 730 mg/kg (pure substance)
- EC-Index-No.: 607-001-00-0
- ADR: 8 CF1 II UN 1779
- IMDG: 8 II UN 1779
- IATA/ICAO: 8 II UN 1779
- GHS-signal word: Danger
- GHS-H sentences: H314 - H226 - H302
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2915 11 00 00
- Applications: analytical chemistry, synthesis of organic products, in the rubber industry, acidifying agent, cosmetics.

- assay (acidimetric) . . . . . 90,0 - 90,2 %
- colour (Hazen) . . . . . max. 10
- acetic acid (CH<sub>3</sub>COOH) . . . . . max. 0,05 %
- chlorides (Cl) . . . . . max. 0,0005 %
- sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %
- sulfites (SO<sub>3</sub>) . . . . . max. 0,001 %
- aluminium (Al) . . . . . max. 0,05 ppm
- ammonium (NH<sub>4</sub>) . . . . . max. 0,001 %
- barium (Ba) . . . . . max. 0,05 ppm
- beryllium (Be) . . . . . max. 0,02 ppm
- bismuth (Bi) . . . . . max. 0,1 ppm
- cadmium (Cd) . . . . . max. 0,05 ppm
- calcium (Ca) . . . . . max. 0,2 ppm
- chromium (Cr) . . . . . max. 0,05 ppm
- cobalt (Co) . . . . . max. 0,02 ppm
- copper (Cu) . . . . . max. 0,02 ppm
- germanium (Ge) . . . . . max. 0,05 ppm
- heavy metals (as Pb) . . . . . max. 5 ppm
- iron (Fe) . . . . . max. 2 ppm
- lead (Pb) . . . . . max. 0,02 ppm
- lithium (Li) . . . . . max. 0,02 ppm
- magnesium (Mg) . . . . . max. 0,5 ppm
- manganese (Mn) . . . . . max. 0,05 ppm
- molybdenum (Mo) . . . . . max. 0,02 ppm
- nickel (Ni) . . . . . max. 0,05 ppm
- potassium (K) . . . . . max. 0,1 ppm
- silver (Ag) . . . . . max. 0,02 ppm
- sodium (Na) . . . . . max. 0,5 ppm
- strontium (Sr) . . . . . max. 0,02 ppm
- thallium (Tl) . . . . . max. 0,05 ppm
- titanium (Ti) . . . . . max. 0,1 ppm
- vanadium (V) . . . . . max. 0,05 ppm
- zinc (Zn) . . . . . max. 0,05 ppm
- zirconium (Zr) . . . . . max. 0,1 ppm
- dilution test . . . . . passes test
- residue on evaporation . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AC10831000	1 l	0

**FORMIC ACID, 85%**



- Synonyms: Methanoic acid, Formylic acid
- HCOOH
- M = 46,03 g/mol
- CAS [64-18-6]
- EINECS-No.: 200-579-1
- Density: ~ 1,2 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -9 °C
- Boiling point: ~ 107 °C
- Flash pt. 69 °C
- LD 50 (oral, rat): 730 mg/kg (pure substance)
- EC-Index-No.: 607-001-00-0
- ADR: 8 CF1 II UN 1779

- IMDG: 8 II UN 1779
- IATA/ICAO: 8 II UN 1779
- GHS-signal word: Danger
- GHS-H sentences: H314 - H302 - H331
- GHS-P sentences: P260 - P264 - P270 - P271 - P280 - P301 + P330 + P331 - P303 + P361 + P353 - P304 + P340 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2915 11 00 00
- Applications: analytical chemistry, synthesis of organic products, in the rubber industry, acidifying agent, cosmetics.

AC1080 Formic acid, solution 85% w/w, EssentQ®



- assay (acidimetric) . . . . . min. 85 %
- chlorides (Cl) . . . . . max. 0,002 %
- sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %
- ammonium (NH<sub>4</sub>) . . . . . max. 0,01 %
- copper (Cu) . . . . . max. 0,001 %
- iron (Fe) . . . . . max. 0,001 %
- lead (Pb) . . . . . max. 0,001 %

- nickel (Ni) . . . . . max. 0,001 %
- residue on evaporation . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AC10801000	1 l	0
AC10802500	2,5 l	0
AC1080005P	5 l	Ⓟ
AC1080025P	25 l	Ⓟ

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

AC1081 Formic acid, solution 85% w/w, ExpertQ®, for analysis



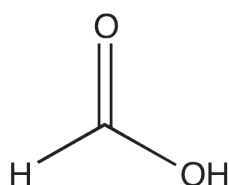
assay (acidimetric) .....min. 85 %  
 colour (Hazen) .....max. 10  
 acetic acid (CH<sub>3</sub>COOH) .....max. 0,4 %  
 chlorides (Cl) .....max. 0,001 %  
 sulfates (SO<sub>4</sub>) .....max. 0,002 %  
 sulfites (SO<sub>3</sub>) .....max. 0,001 %  
 aluminium (Al) .....max. 0,05 ppm  
 ammonium (NH<sub>4</sub>) .....max. 0,005 %  
 barium (Ba) .....max. 0,05 ppm  
 cadmium (Cd) .....max. 0,05 ppm  
 calcium (Ca) .....max. 0,5 ppm  
 chromium (Cr) .....max. 0,02 ppm  
 copper (Cu) .....max. 0,02 ppm

heavy metals (as Pb) .....max. 0,0005 %  
 iron (Fe) .....max. 0,1 ppm  
 lead (Pb) .....max. 0,02 ppm  
 lithium (Li) .....max. 0,02 ppm  
 magnesium (Mg) .....max. 0,5 ppm  
 manganese (Mn) .....max. 0,05 ppm  
 nickel (Ni) .....max. 0,05 ppm  
 potassium (K) .....max. 0,1 ppm  
 silver (Ag) .....max. 0,02 ppm  
 sodium (Na) .....max. 1 ppm  
 zinc (Zn) .....max. 0,05 ppm  
 residue on evaporation .....max. 0,002 %

ART. NO.	VOLUME	CONTAINER
AC10811000	1 l	0

## FORMIC ACID, SOLUTION 10%

AC1075 Formic acid, solution 10% in water, for cleaning purposes, LC-MS



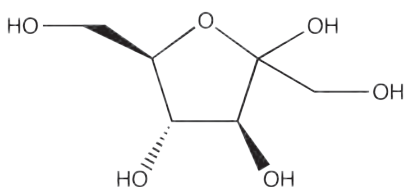
- Synonyms: Methanoic acid, Formylic acid
- CAS [64-18-6]
- EINECS-No.: 200-579-1
- EC-Index-No.: 607-001-00-0
- ADR: 8 C3 II UN 3412
- IMDG: 8 II UN 3412
- IATA/ICAO: 8 II UN 3412
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2915 11 00 00
- Applications: analytical chemistry, chromatography.

formic acid content (v/v) .....9,5 - 10,5 %  
 aluminium (Al) .....max. 0,05 ppm  
 calcium (Ca) .....max. 0,05 ppm  
 iron (Fe) .....max. 0,05 ppm  
 magnesium (Mg) .....max. 0,05 ppm  
 potassium (K) .....max. 0,05 ppm  
 sodium (Na) .....max. 0,05 ppm  
 suitability for use in LC-MS .....passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 260 nm .....80 % 0,097 AU  
 280 nm .....90 % 0,046 AU

ART. NO.	VOLUME	CONTAINER
AC10751000	1 l	0

## D(-)-FRUCTOSE

LE0070 D(-)-Fructose, extra pure, Phampur®, Ph Eur, BP, USP



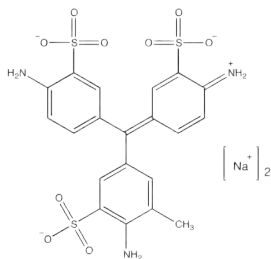
- Synonyms: Levulose, Laevulose
- C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>
- M = 180,16 g/mol
- CAS [57-48-7]
- EINECS-No.: 200-333-3
- Solub. in water: (20 °C): 500 g/l
- Melting point: 100 - 110 °C (decomposes)
- Tariff number: 1702 50 00 00
- Applications: analytical chemistry, in food industry, synthesis of organic products, nutrient media for bacterial culture, in pharma industry.

assay (on dried sample) .....98,0 - 102,0 %  
 identification .....passes test  
 appearance of solution .....passes test  
 colour of solution .....passes test  
 acidity or alkalinity .....passes test  
 acidity .....passes test  
 specific rotation ([α]<sub>D</sub><sup>20</sup>),  
 c = 10, H<sub>2</sub>O) .....-93,5 ° - -91,0 °  
 chlorides (Cl) .....max. 0,018 %  
 sulfates (SO<sub>4</sub>) .....max. 0,025 %  
 arsenic (As) .....max. 1 ppm  
 calcium and magnesium (as Ca) .....max. 0,005 %  
 foreign sugars .....passes test  
 5-Hydroxymethylfurfural and related  
 substances .....passes test  
 residue on ignition .....max. 0,1 %  
 water (K.F.) .....max. 0,5 %  
 loss on drying .....max. 0,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
LE00700500	500 g	0
LE00701000	1 kg	0
LE0070025P	25 kg	0

## FUCHSIN ACID, C.I. 42685

FU0055 Fuchsin acid, C.I. 42685, for microscopy



- $C_{20}H_{17}N_3Na_2O_6S_3$
- $M = 585,54 \text{ g/mol}$
- CAS [3244-88-0]
- EINECS-No.: 221-816-5
- Solub. in water: (20 °C): 200 g/l
- Melting point: > 130 °C (decomposes)
- Tariff number: 3204 12 00 00
- Applications: indicator, manufacturing of inks (for biology), microscopy.

Absorption maximum  $\lambda$  (in HCl 0,005 mol/l) . . . . . 540 - 545 nm  
Absorptivity (A1%/1 cm;  $\lambda$  max.) . . . . . 800 - 1300  
loss on drying (135 °C) . . . . . max. 10 %

ART. NO.	VOLUME	CONTAINER
FU00550010	10 g	0
FU00550025	25 g	0
FU00550050	50 g	0
FU00550100	100 g	0

## FUCHSIN BASIC, CARBOL SOLUTION, ACCORDING TO ZIEHL

FU0065 Fuchsin basic, carbol solution, according to Ziehl



- Density: 0,98 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 47 °C
- ADR: 8 CF1 II UN 2920
- IMDG: 8 II UN 2920
- IATA/ICAO: 8 II UN 2920
- GHS-signal word: Danger
- GHS-H sentences: H314 - H226 - H341 - EUH208

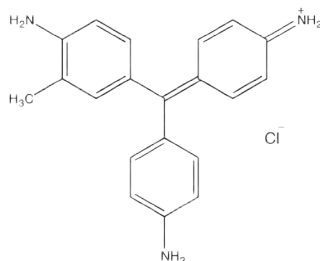
- GHS-P sentences: P210 - P241 - P303 + P361 + P533 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3204 13 00 90
- Applications: microscopy.
- Appearance: Red liquid

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
FU00650500	500 ml	0
FU00652500	2,5 l	0

## FUCHSIN BASIC, C.I. 42510

FU0060 Fuchsin basic, C.I. 42510, for microscopy



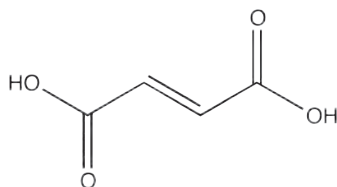
- $C_{20}H_{20}ClN_3$
- $M = 337,85 \text{ g/mol}$
- CAS [632-99-5]
- EINECS-No.: 211-189-6
- Solub. in water: (25 °C): 4 g/l
- Melting point: ~ 235 °C (decomposes)
- GHS-signal word: Danger
- GHS-H sentences: H334 - H351 - H302 - H317
- GHS-P sentences: P285 - P261 - P280 - P321 - P405 - P501a
- Tariff number: 3204 13 00 90
- Applications: microscopy.

Absorption maximum  $\lambda$  (in ethanol 50 %) . . . . . 549 - 553 nm  
Absorptivity (A1%/1 cm;  $\lambda$  max.) . . . . . 1600 - 2250  
loss on drying (135°C) . . . . . max. 15 %

ART. NO.	VOLUME	CONTAINER
FU00600025	25 g	0
FU00600100	100 g	0
FU00601000	1 kg	0
FU0060005P	5 kg	0

## FUMARIC ACID

AC1155 Fumaric acid, EssentQ®



- Synonyms: trans-Butenedioic acid
- $C_4H_4O_4$
- $M = 116,07 \text{ g/mol}$
- CAS [110-17-8]
- EINECS-No.: 203-743-0
- Solub. in water: (20 °C): 4,9 g/l
- Melting point: 287 °C
- Boiling point: 290 °C
- Flash pt. 273 °C
- Ignition temp.: 375 °C
- Vapour pressure: (20 °C) < 0,001 hPa
- LD 50 (oral, rat): 9300 mg/kg
- EC-Index-No.: 607-146-00-X
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2917 19 90 90
- Applications: antioxidant, manufacturing of synthetic resins, manufacture of dyes, synthesis of organic products.

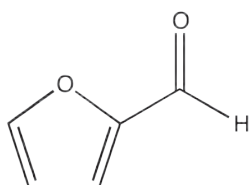
assay (acidimetric) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AC11551000	1 kg	0



## FURFURAL

FU0090 Furfural, EssentQ®



- Synonyms: 2-Furaldehyde, 2-Furancarbaldehyde, Furylmethanal
- $C_5H_4O_2$
- $M = 96,09 \text{ g/mol}$
- CAS [98-01-1]
- EINECS-No.: 202-627-7
- Density:  $1,16 \text{ g/cm}^3$
- Solub. in water: (20 °C): 83 g/l
- Melting point: -37 °C
- Boiling point: 162 °C
- Flash pt. 60 °C
- Ignition temp.: 315 °C
- Vapour pressure: (20 °C) 1 hPa
- Dielectric const.: (20 °C) 41,9
- LD 50 (oral, rat): 65 mg/kg
- EC-Index-No.: 605-010-00-4
- ADR: 6.1 TF1 II UN 1199
- IMDG: 6.1 II UN 1199
- IATA/ICAO: 6.1 II UN 1199
- GHS-signal word: Danger
- GHS-H sentences: H301 - H331 - H226 - H351 - H312 - H315 - H319 - H335
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a

- Tariff number: 2932 12 00 00
- Applications: analytical chemistry, for the detection of: aromatic amines, insecticide, fungicide, solvents. assay (G.C.) ..... min. 98 % identity (IR-spectrum) ..... passes test density (20°/4°) ..... 1,158 - 1,160 residue on ignition ..... max. 0,01 % water (K.F.) ..... max. 0,2 %

ART. NO.	VOLUME	CONTAINER
FU00901000	1 l	0
FU0090005P	5 l	Ⓟ

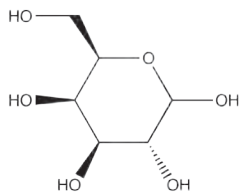
# Scharlau UHPLC-MS & LC-MS solvents

The right purity for an excellent result



## D(+)-GALACTOSE

GA0025 D(+)-Galactose, extra pure, Pharpur®, Ph Eur, BP



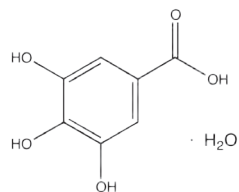
- Synonyms: Lactoglucose, D-Galactopyranose
- $C_6H_{12}O_6$
- $M = 180,16 \text{ g/mol}$
- CAS [59-23-4]
- EINECS-No.: 200-416-4
- Solub. in water: (20 °C): 650 g/l
- Melting point: 163 - 169 °C
- Tariff number: 2940 00 00 80
- Applications: analytical chemistry, in food industry, in biochemistry, nutrient media for bacterial culture, in pharma industry.

assay (HPLC) ..... 97,0 - 102,0 %  
 identification ..... passes test  
 appearance of solution ..... passes test  
 acidity or alkalinity ..... passes test  
 proteins ..... max. 0,1 ppm  
 barium (Ba) ..... passes test  
 lead (Pb) ..... max. 0,5 ppm  
 related substances (HPLC) ..... passes test  
 residue on ignition ..... max. 0,1 %  
 water (K.F.) ..... max. 1,0 %  
 microbial contamination ..... max. 100 cfu/g  
 Elemental impurities are analysed according to guideline  
 CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline  
 CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
GA00250100	100 g	0

## GALLIC ACID MONOHYDRATE

AC1180 Gallic acid monohydrate, EssentQ®



- Synonyms: 3,4,5-Trihydroxybenzoic acid
- $C_7H_6O_5 \cdot H_2O$
- $M = 188,14 \text{ g/mol}$
- CAS [5995-86-8]
- EINECS-No.: 205-749-9
- Solub. in water: (20 °C): ~ 15 g/l
- Melting point: 256 - 260 °C
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2918 29 00 90
- Applications: analytical chemistry, photography, manufacture of dyes, cosmetics.

assay (acidimetric) ..... min. 99,5 %  
 identity (IR-spectrum) ..... passes test  
 chlorides (Cl) ..... max. 0,01 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,005 %  
 loss on drying (105 °C) ..... 7 - 10 %  
 residue on ignition ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC11800250	250 g	0
AC11800500	500 g	0
AC1180025P	25 kg	0

## GELATINE POWDER

GE0020 Gelatine powder, for analysis and bacteriology

- Synonyms: Gelatin powder
- CAS [9000-70-8]
- EINECS-No.: 232-554-6
- Solub. in water: soluble in hot water
- Boiling point: 100 °C
- LD 50 (oral, rat): > 5000 mg/kg
- Tariff number: 3503 00 10 00
- Applications: in food industry, in the rubber industry, for pharmaceutical use, plasticizer, for microbiology, nutrient media for bacterial culture, analytical chemistry.

pH (1 %, H<sub>2</sub>O) ..... 3,8 - 7,6  
 sulphur dioxide (SO<sub>2</sub>) ..... max. 0,005 %  
 arsenic (As) ..... max. 1 ppm  
 heavy metals (as Pb) ..... max. 0,001 %  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) ..... max. 0,01 %  
 residue on ignition ..... max. 2 %  
 loss on drying ..... max. 15 %  
 suitability for microbiology ..... passes test

ART. NO.	VOLUME	CONTAINER
GE00200250	250 g	0
GE00201000	1 kg	0

## GENTIAN VIOLET, CARBOL SOLUTION

V10032 Gentian violet, carbol solution, for microscopy

- Density: 0,988 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: microscopy, bacterium staining.

suitability for microscopy ..... passes test

ART. NO.	VOLUME	CONTAINER
V100320500	500 ml	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## GLASS WOOL

LA0075 Glass wool

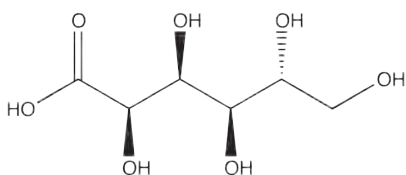
- CAS [65997-17-3]
- EINECS-No.: 266-046-0
- Solub. in water: (20 °C): insoluble
- Tariff number: 7019 90 00 90
- Applications: for laboratory uses.

soluble alkali in water (as Na<sub>2</sub>O) . . . . . max. 0,1 %  
 solubility in HCl . . . . . max. 1 %  
 diameter of fibre . . . . . passes test

ART. NO.	VOLUME	CONTAINER
LA00750100	100 g	
LA00750250	250 g	
LA00751000	1 kg	

## GLUCONIC ACID, SOLUTION 50%

AC1200 Gluconic acid, solution 50% w/w, EssentQ®



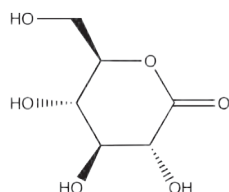
- Synonyms: Dextronic acid, Maltonic acid, Glyconic acid, Pentahydroxycaproic acid
- C<sub>6</sub>H<sub>12</sub>O<sub>7</sub>
- M = 196,16 g/mol
- CAS [526-95-4]
- EINECS-No.: 208-401-4
- Density: 1,24 g/cm<sup>3</sup>
- Solub. in water: (20 °C): freely miscible
- Boiling point: 105 - 106 °C
- Tariff number: 2918 16 00 00
- Applications: synthesis of organic products, whitener agent.

assay (acidimetric) . . . . . approx. 50 %

ART. NO.	VOLUME	CONTAINER
AC12000250	250 ml	

## D-GLUCONO-D-LACTONE

GL0110 D-Glucono-d-lactone, EssentQ®

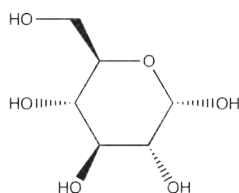


- Synonyms: D(+) -Glucono-1,5-lactone, d-Gluconolactone, D(+) -Dextronic acid d-lactone
- C<sub>6</sub>H<sub>10</sub>O<sub>6</sub>
- M = 178,14 g/mol
- CAS [90-80-2]
- EINECS-No.: 202-016-5
- Solub. in water: (20 °C): ~ 590 g/l
- Melting point: 153 °C
- Tariff number: 2932 20 90 90
- Applications: laboratory reagent, synthesis of organic products, in food industry.

assay (acidimetric) . . . . . min. 99,5 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
GL01100250	250 g	

## D(+)-GLUCOSE ANHYDROUS







- Synonyms: Dextrose
- C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>
- M = 180,16 g/mol
- CAS [50-99-7]
- EINECS-No.: 200-075-1
- Solub. in water: (20 °C): ~ 470 g/l
- Melting point: ~ 146 °C
- Ignition temp.: ~ 500 °C

- LD 50 (oral, rat): 25800 mg/kg
- Tariff number: 1702 30 51 00
- Applications: analytical chemistry, in biochemistry, for pharmaceutical use, in food industry, in pharma industry.

GL0125 D(+)-Glucose anhydrous, extra pure, Pharmpur®, Ph Eur, BP, USP

assay (HPLC on dried sample) . . . . . 97,5 - 102,0%  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 conductivity (25 °C) . . . . . max. 20 µS/cm  
 dextrans . . . . . passes test  
 soluble starch, sulfites . . . . . max. 15 ppm

related substances . . . . . passes test  
 water (K.F.) . . . . . max. 1,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
GL01250500	500 g	
GL01251000	1 kg	
GL0125005P	5 kg	
GL0125025P	25 kg	

GL0127 D(+)-Glucose anhydrous, ExpertQ®, for analysis, ACS, Reag. Ph Eur

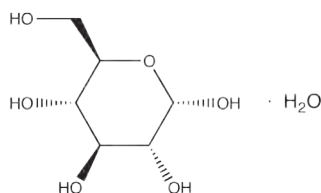
assay (HPLC on dried sample) . . . . . 97,5 - 102,0%  
identity (IR-spectrum) . . . . . passes test  
appearance of solution . . . . . passes test  
specific rotation ( $[\alpha]_{25}^{\circ}/D, c = 10, H_2O$ ) + 52,5° - + 53,0°  
conductivity (25 °C) . . . . . max. 20  $\mu$ S/cm  
insoluble in water . . . . . max. 0,005 %  
acidity . . . . . max. 0,002 meq/g  
chlorides (Cl) . . . . . max. 0,01 %

sulfates and sulfites (as  $SO_4$ ) . . . . . max. 0,005 %  
heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 5 ppm  
dextrines . . . . . passes test  
starch . . . . . passes test  
soluble starch, sulfites . . . . . max. 15 ppm  
related substances . . . . . passes test  
loss on drying (105 °C) . . . . . max. 0,2 %  
residue on ignition . . . . . max. 0,02 %  
water (K.F.) . . . . . max. 1,0 %

ART. NO.	VOLUME	CONTAINER
GL01270250	250 g	
GL01271000	1 kg	
GL0127005P	5 kg	

## D(+)-GLUCOSE MONOHYDRATE

GL0129 D(+)-Glucose monohydrate, extra pure, Phampur®, Ph Eur, BP, USP



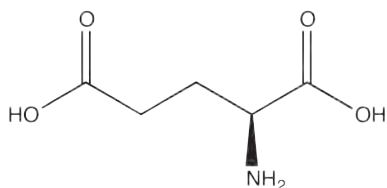
- Synonyms: Dextrose, Blood sugar
- $C_6H_{12}O_6 \cdot H_2O$
- $M = 198,17$  g/mol
- CAS [14431-43-7]
- EINECS-No.: 200-075-1
- Solub. in water: (20 °C): ~ 470 g/l
- Melting point: ~ 83 °C
- Ignition temp.: ~ 500 °C
- LD 50 (oral, rat): 25800 mg/kg (anhydrous substance)
- Tariff number: 1702 30 51 00
- Applications: synthesis of organic products, in food industry, nutrient media for bacterial culture, for pharmaceutical use, in pharma industry.

assay (HPLC, referred to dried sample) . . . . . 97,5 - 102,0%  
identification . . . . . passes test  
appearance of solution . . . . . passes test  
conductivity (25°C) . . . . . max. 20  $\mu$ S/cm  
related substances . . . . . passes test  
dextrines . . . . . passes test  
soluble starch, sulfites . . . . . max. 15 ppm  
water (K.F.) . . . . . 7,5 - 9,5 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
GL01290500	500 g	
GL01291000	1 kg	
GL0129005P	5 kg	
GL0129025P	25 kg	

## L-GLUTAMIC ACID

AC1225 L-Glutamic acid, extra pure, Phampur®, Ph Eur, BP



- Synonyms: L- $\alpha$ -Aminoglutaric acid, (S)-2-Aminopentanedioic acid
- $C_5H_9NO_4$
- $M = 147,13$  g/mol
- CAS [56-86-0]
- EINECS-No.: 200-293-7
- Solub. in water: (25 °C): ~ 11,1 g/l
- Melting point: 160 °C
- LD 50 (oral, rat): > 30000 mg/kg
- Tariff number: 2922 42 00 90
- Applications: in biochemistry, in food industry, in pharma industry.

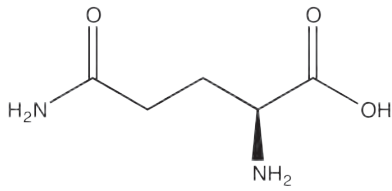
assay (acidimetric, referred to dried sample) . . . . . 98,5 - 100,5 %  
assay (titr. with  $HClO_4$ , referred to dried sample) . . . . . 98,5 - 101,5 %  
identification . . . . . passes test  
appearance of solution . . . . . clear and colourless  
specific rotation ( $[\alpha]_{20}^{\circ}/D, c = 10, HCl 1M$ , on dried sample)+ 30,5° - + 32,5°  
specific rotation ( $[\alpha]_{20}^{\circ}/D; c=10, HCl 2N$ ) . . . . . + 31,5° - + 32,5°  
chlorides (Cl) . . . . . max. 200 ppm  
sulfates ( $SO_4$ ) . . . . . max. 0,02 %  
ammonium ( $NH_4$ ) . . . . . max. 200 ppm  
iron (Fe) . . . . . max. 10 ppm  
ninhydrin-positive substances . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
loss on drying (105 °C) . . . . . max. 0,1 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC12250250	250 g	
AC12251000	1 kg	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

# L-GLUTAMINE

GL0165 L-Glutamine, extra pure, Pharpur®, USP



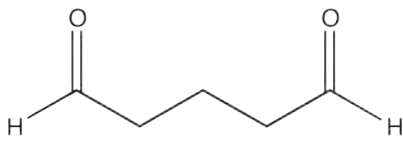
- Synonyms: L-Glutamic acid-5-amide
- C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>
- M = 146,15 g/mol
- CAS [56-85-9]
- EINECS-No.: 200-292-1
- Solub. in water: (18 °C): 26 g/l
- Melting point: 185 - 186 °C
- LD 50 (oral, rat): 7500 mg/kg
- Tariff number: 2924 19 00 90
- Applications: in biochemistry, analytical chemistry, for pharmaceutical use, synthesis of organic products, in pharma industry.

assay (titration with HClO<sub>4</sub>, referred to dried sample) . . . . . 98,5 - 101,5 %  
 identification . . . . . passes test  
 specific rotation ([α]<sub>D</sub><sup>20</sup>)  
 c = 4, H<sub>2</sub>O) . . . . . + 6,3° - + 7,3°  
 chlorides (Cl) . . . . . max. 0,05 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,03 %  
 iron (Fe) . . . . . max. 30 ppm  
 residue on ignition (as SO<sub>2</sub>) . . . . . max. 0,3 %  
 loss on drying (105 °C, 3 h) . . . . . max. 0,3 %  
 related substances (TLC) . . . . . max. 0,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
GL01650100	100 g	0

# GLUTARDIALDEHYDE, SOLUTION 50%

GL0168 Glutardialdehyde, solution 50% w/w, EssentQ®

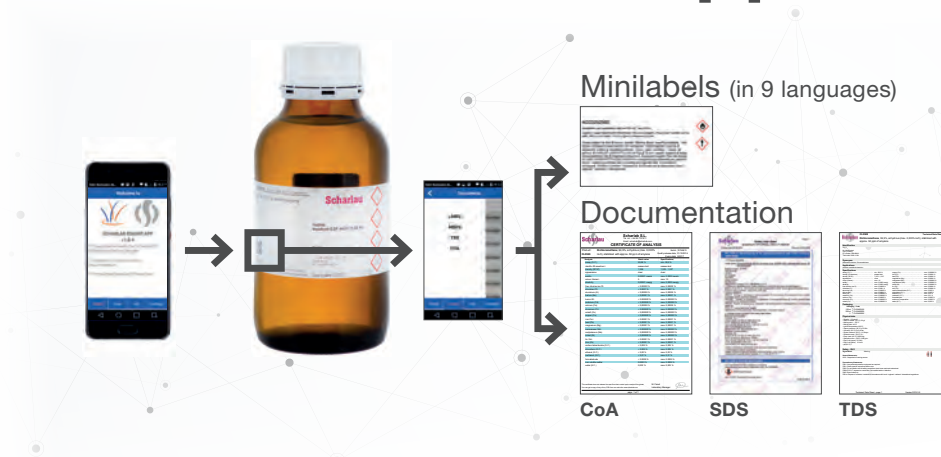


- Synonyms: Pentanedial, Glutaraldehyde, Glutaric dialdehyde
- C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>
- M = 100,12 g/mol
- CAS [111-30-8]
- EINECS-No.: 203-856-5
- Density: 1,13 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -21 °C
- Boiling point: 100,5 °C
- Flash pt. > 100 °C
- Ignition temp.: > 225 °C
- Vapour pressure: (20 °C) 0,27 hPa
- LD 50 (oral, rat): 134 mg/kg (pure substance)
- EC-Index-No.: 605-022-00-X
- ADR: 6.1 TC1 II UN 2927
- IMDG: 6.1 II UN 2927
- IATA/ICAO: 6.1 II UN 2927
- GHS-signal word: Danger
- GHS-H sentences: H301 - H331 - H334 - H314 - H400 - H317 - H335
- GHS-P sentences: P260 - P285 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2912 19 00 00
- Applications: analytical chemistry, in sterilization of endoscopic instruments, cosmetics.
- Appearance: Clear liquid

assay (method of bisulfite) . . . . . approx. 50 %  
 density (20°/4°) . . . . . 1,125 - 1,130

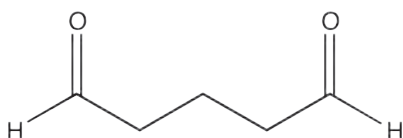
ART. NO.	VOLUME	CONTAINER
GL01680250	250 ml	0
GL01681000	1 l	0

# Scharlab Reader App QR



## GLUTARDIALDEHYDE, SOLUTION 25%

GL0170 Glutardialdehyde, solution 25% w/w, EssentQ®

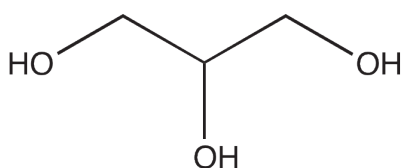


- Synonyms: Pentanedial, Glutaraldehyde, Glutaric dialdehyde
- $C_5H_8O_2$
- $M = 100,12 \text{ g/mol}$
- CAS [111-30-8]
- EINECS-No.: 203-856-5
- Density:  $1,06 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $-7 \text{ °C}$
- Boiling point:  $\sim 100 \text{ °C}$
- LD 50 (oral, rat):  $134 \text{ mg/kg}$  (pure substance)
- EC-Index-No.: 605-022-00-X
- ADR: 6.1 TC1 II UN 2927
- IMDG: 6.1 II UN 2927
- IATA/CAO: 6.1 II UN 2927
- GHS-signal word: Danger
- GHS-H sentences: H334 - H314 - H400 - H302 - H332 - H335 - H317
- GHS-P sentences: P260 - P285 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2912 19 00 00
- Applications: analytical chemistry, in sterilization of endoscopic instruments, cosmetics.
- Appearance: Colourless, clear liquid

assay (method of bisulfite) ..... approx. 25 %  
density (20°/4°) ..... 1,060 - 1,065

ART. NO.	VOLUME	CONTAINER
GL01700250	250 ml	0
GL01701000	1 l	0

## GLYCEROL



- Synonyms: Glycerin, 1,2,3-Propanetriol
- $C_3H_8O_3$
- $M = 92,10 \text{ g/mol}$
- CAS [56-81-5]
- EINECS-No.: 200-289-5
- Density:  $1,26 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $18 \text{ °C}$
- Boiling point: (0,09 hPa)  $120 \text{ °C}$

- Flash pt.  $160 \text{ °C}$
- Ignition temp.:  $400 \text{ °C}$
- Vapour pressure: (20 °C)  $< 0,001 \text{ hPa}$
- LD 50 (oral, rat):  $12600 \text{ mg/kg}$
- Tariff number: 2905 45 00 00
- Applications: analytical chemistry, synthesis of organic products, in explosive compositions, cosmetics, for pharmaceutical use.

GL0026 Glycerol, 99,5%, ExpertQ®, for analysis, ACS, Reag. Ph Eur

assay (G.C.) ..... min. 99,5 %  
assay (acidimetric, on dried sample) ..... 98,0 - 101,0 %  
identity (IR-spectrum) ..... passes test  
refractive index  $n_{20/D}$  ..... 1,470 - 1,475  
appearance of solution ..... passes test  
colour (Hazen) ..... max. 10  
acidity or alkalinity ..... passes test  
neutrality ..... passes test  
acrolein and glucose ..... passes test  
aldehydes ..... max. 10 ppm  
halogenated compounds (as Cl) ..... max. 30 ppm  
chlorides (Cl) ..... max. 0,0005 %  
sulfates ( $SO_4$ ) ..... max. 0,001 %  
aluminium (Al) ..... max. 0,5 ppm  
barium (Ba) ..... max. 0,1 ppm  
boron (B) ..... max. 0,02 ppm  
cadmium (Cd) ..... max. 0,05 ppm  
calcium (Ca) ..... max. 1 ppm

chromium (Cr) ..... max. 0,02 ppm  
cobalt (Co) ..... max. 0,05 ppm  
copper (Cu) ..... max. 0,05 ppm  
heavy metals (as Pb) ..... max. 2 ppm  
iron (Fe) ..... max. 0,1 ppm  
lead (Pb) ..... max. 0,1 ppm  
magnesium (Mg) ..... max. 1 ppm  
manganese (Mn) ..... max. 0,1 ppm  
nickel (Ni) ..... max. 0,02 ppm  
tin (Sn) ..... max. 0,1 ppm  
zinc (Zn) ..... max. 0,1 ppm  
fatty acid esters (as butyric acid) ..... max. 0,05 %  
esters ..... passes test  
sugars ..... passes test  
substances darkened by  $H_2SO_4$  ..... passes test  
impurity A and related substances ..... passes test  
residue on ignition ..... max. 0,005 %  
water (K.F.) ..... max. 0,5 %

ART. NO.	VOLUME	CONTAINER
GL00261000	1 l	0
GL00262500	2,5 l	0
GL0026005P	5 l	0

GL0027 Glycerol, 99%, extra pure, Pharmpur®, Ph Eur, BP, USP

assay (acidimetric, on dried sample) ..... 99,0 - 101,0 %  
identification ..... passes test  
density (25°/25°) ..... min. 1,249  
refractive index  $n_{20/D}$  ..... 1,470 - 1,475  
appearance of solution ..... passes test  
colour ..... passes test  
acidity or alkalinity ..... passes test  
aldehydes ..... max. 10 ppm  
halogenated compounds (as Cl) ..... max. 30 ppm  
chlorides (Cl) ..... max. 10 ppm  
sulfates ( $SO_4$ ) ..... max. 20 ppm

fatty acids and esters ..... passes test  
esters ..... passes test  
impurity A and related substances ..... passes test  
sugars ..... passes test  
residue on ignition ..... max. 0,01 %  
water (K.F.) ..... max. 2,0 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
GL00271000	1 l	0
GL00272500	2,5 l	0
GL0027005P	5 l	0
GL0027025P	25 l	0
GL0027200P	200 l	0



## GL0028 Glycerol anhydrous, molecular biology grade

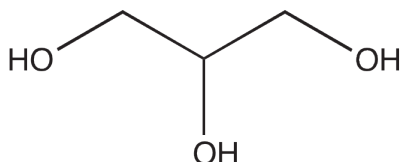
assay (acidimetric, on dried sample) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 absorbance of an aqueous solution  
 0,5 M in a 1 cm cell at 260 nm . . . . . max. 0,07 AU

absorbance of an aqueous solution  
 0,5 M in a 1 cm cell at 280 nm . . . . . max. 0,02 AU  
 heavy metals (as Pb) . . . . . max. 2 ppm  
 DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
GL00280100	100 ml	Ø
GL00281000	1 l	Ø

## GLYCEROL, 86 - 88%

## GL0023 Glycerol, solution 86 - 88% w/w, ExpertQ®, for analysis, ISO

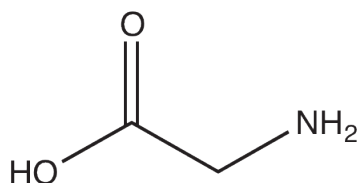


- Synonyms: Glycerin, 1,2,3-Propanetriol
- $C_3H_8O_3$
- $M = 92,10 \text{ g/mol}$
- CAS [56-81-5]
- EINECS-No.: 200-289-5
- Density:  $1,23 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $17,8 \text{ °C}$
- Boiling point:  $> 130 \text{ °C}$
- Flash pt.  $160 \text{ °C}$
- Ignition temp.:  $\sim 429 \text{ °C}$
- Vapour pressure: (20 °C)  $\sim 8 \text{ hPa}$
- Dielectric const.: (20 °C) 42,5
- LD 50 (oral, rat):  $12600 \text{ mg/kg}$  (pure substance)
- Tariff number: 2905 45 00 00
- Applications: solvents, humectant, plasticizer, in food industry, cosmetics, in antifreeze compositions, in lubricant compositions.

assay (G.C.) . . . . . 86 - 88 %  
 density (20°/4°) . . . . . 1,221 - 1,231  
 identity (IR-spectrum) . . . . . passes test  
 free acid (as  $\text{CH}_3\text{COOH}$ ) . . . . . max. 0,002 %  
 free alkali (as  $\text{NH}_3$ ) . . . . . max. 0,0005 %  
 chlorides (Cl) . . . . . max. 0,0001 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,0005 %  
 ammonium ( $\text{NH}_4$ ) . . . . . max. 0,0005 %  
 arsenic (As) . . . . . max. 0,5 ppm  
 heavy metals (as Pb) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 1 ppm  
 aldehydes . . . . . max. 0,001 %  
 fatty acid esters (as  
 glycerol tributrate) . . . . . max. 0,05 %  
 other org. matter (as  $\text{CH}_2=\text{CHCHO}$ ) . . . . . max. 0,005 %  
 glycerolaldehyde . . . . . max. 0,003 %  
 substances darkened by  $\text{H}_2\text{SO}_4$  . . . . . passes test  
 residue on ignition . . . . . max. 0,005 %  
 water (K.F.) . . . . . 12 - 14 %

ART. NO.	VOLUME	CONTAINER
GL00231000	1 l	Ø
GL0023005P	5 l	Ⓟ

## GLYCINE



- Synonyms: Aminoacetic acid, Glycocol
- $C_2H_5NO_2$
- $M = 75,07 \text{ g/mol}$
- CAS [56-40-6]
- EINECS-No.: 200-272-2
- Solub. in water: (20 °C): 225 g/l
- Melting point:  $232 - 236 \text{ °C}$  (decomposes)
- LD 50 (oral, rat):  $7930 \text{ mg/kg}$

- Tariff number: 2922 49 85 00
- Applications: analytical chemistry, in buffer solutions (for electrophoresis), for pharmaceutical use, in food industry.

## AC0402 Glycine, extra pure, Pharpur®, Ph Eur, BP, USP

assay (titration with  $\text{HClO}_4$ , on  
 dried sample) . . . . . 98,5 - 101,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 5,9 - 6,4  
 hydrolyzable substances . . . . . passes test  
 chlorides (Cl) . . . . . max. 75 ppm  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 65 ppm  
 ammonium . . . . . max. 0,02 %

ninhydrin-positive substances . . . . . passes test  
 related substances . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (105 °C) . . . . . max. 0,2 %  
 Elemental impurities are analysed according to guideline  
 CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline  
 CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC04020250	250 g	Ⓟ
AC04021000	1 kg	Ⓟ
AC0402005P	5 kg	Ⓟ
AC0402025P	25 kg	Ⓟ

## AC0404 Glycine, ExpertQ®, for analysis, ACS, Reag. Ph Eur

assay (titration with  $\text{HClO}_4$ ) . . . . . min. 99,7 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,003 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 5,9 - 6,3  
 chlorides (Cl) . . . . . max. 0,003 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,0025 %  
 ammonium ( $\text{NH}_4$ ) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 1 ppm  
 heavy metals (as Pb) . . . . . max. 0,001 %

iron (Fe) . . . . . max. 1 ppm  
 lead (Pb) . . . . . max. 1 ppm  
 hydrolyzable substances . . . . . passes test  
 other ninhydrin positive  
 substances (as glycine) . . . . . max. 0,1 %  
 other aminoacids . . . . . max. 0,1 %  
 substances darkened by  $\text{H}_2\text{SO}_4$  . . . . . passes test  
 residue on ignition (600 °C) . . . . . max. 0,05 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC04040250	250 g	Ⓟ
AC04041000	1 kg	Ⓟ
AC0404005P	5 kg	Ⓟ
AC0404025P	25 kg	Ⓟ

AC0406 Glycine, molecular biology grade

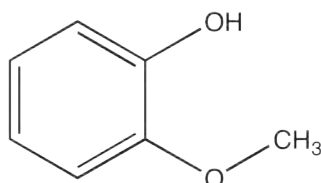
assay (titration with HClO<sub>4</sub>) . . . . . min. 99,7 %  
identity (IR-spectrum) . . . . . passes test  
absorbance of an aqueous solution  
0,1 M in a 1 cm cell at 260 nm . . . . . max. 0,01 AU

absorbance of an aqueous solution  
0,1 M in a 1 cm cell at 280 nm . . . . . max. 0,01 AU  
heavy metals (as Pb) . . . . . max. 0,001 %  
DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
AC04060100	100 g	☒
AC04061000	1 kg	☒

**GUAIACOL**

GU0115 Guaiacol, EssentQ®

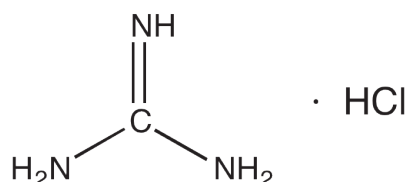


- Synonyms: O-Methoxyphenol, Methylcatechol, 1-Hydroxy-2-methoxybenzene, 2-Methoxyphenol, Pyrocatechol monomethyl ether, 2-Hydroxyanisole
- C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>
- M = 124,14 g/mol
- CAS [90-05-1]
- EINECS-No.: 201-964-7
- Density: 1,13 g/cm<sup>3</sup>
- Solub. in water: (30 °C): 15 g/l
- Melting point: 28 - 32 °C
- Boiling point: 205 °C
- Flash pt. 82 °C
- Ignition temp.: 750 °C
- Vapour pressure: (25 °C) 0,1 hPa
- LD 50 (oral, rat): 520 mg/kg
- EC-Index-No.: 604-031-00-6
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P501a
- Tariff number: 2909 50 00 90
- Applications: perfumery, in food industry.

assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,05 %  
water (K.F.) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
GU01150250	250 ml	☒
GU01151000	1 l	☒

**GUANIDINE HYDROCHLORIDE**



- Synonyms: Guanidinium chloride, Aminomethanamide hydrochloride, Carbamidine hydrochloride
- CH<sub>5</sub>N<sub>3</sub>·HCl
- M = 95,53 g/mol
- CAS [50-01-1]
- EINECS-No.: 200-002-3
- Solub. in water: (20 °C): soluble
- Melting point: 185 °C
- LD 50 (oral, rat): 475 mg/kg
- EC-Index-No.: 607-148-00-0
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P501a
- Tariff number: 2925 29 00 90
- Applications: synthesis of organic products, in biochemistry, for pharmaceutical use.

GU0060 Guanidine hydrochloride, EssentQ®

assay (argentometric) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
water (K.F.) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
GU00600250	250 g	☒

ART. NO.	VOLUME	CONTAINER
GU00601000	1 kg	☒

GU0061 Guanidine hydrochloride, molecular biology grade

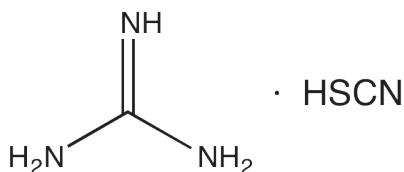
assay (titration with HClO<sub>4</sub>) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
pH (10 %, H<sub>2</sub>O) . . . . . 5,5 - 6,5  
absorbance of an aqueous solution  
0,1 M in a 1 cm cell at 260 nm . . . . . max. 0,050 AU

absorbance of an aqueous solution  
0,1 M in a 1 cm cell at 280 nm . . . . . max. 0,010 AU  
heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 5 ppm  
residue on ignition (600 °C) . . . . . max. 0,05 %  
water (K.F.) . . . . . max. 1 %  
DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
GU00610100	100 g	☒
GU00611000	1 kg	☒


## GUANIDINE THIOCYANATE

GU0065 Guanidine thiocyanate, molecular biology grade 




- Synonyms: Aminomethanimidine thiocyanate, Carbamidine thiocyanate
- $C_2H_5N_3S$
- $M = 118,16 \text{ g/mol}$
- CAS [593-84-0]
- EINECS-No.: 209-812-1
- Solub. in water: (20 °C): soluble
- Melting point: 118 °C
- EC-Index-No.: 615-004-00-3
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H332 - H412 - EUH032
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 2925 29 00 90
- Applications: laboratory reagent (for biology), for pharmaceutical use, in buffer solutions.
- Appearance: White to light yellow powder

assay (argentometric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance . . . . . passes test  
 copper (Cu) . . . . . max. 0,5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,5 ppm  
 zinc (Zn) . . . . . max. 2 ppm  
 residue on ignition . . . . . max. 0,05 %  
 RNases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
GU00650250	250 g	

## GUM ARABIC

GO0020 Gum arabic, powder, extra pure, Pharmapur®, Ph Eur, BP 

- Synonyms: Acacia
- CAS [9000-01-5]
- EINECS-No.: 232-519-5
- Solub. in water: (20 °C): 500 g/l
- LD 50 (oral, rat): > 16000 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 1301 20 00 00
- Applications: emulsifier and thickener (in food industry), manufacture of adhesives, stabilizer, in pharma industry.

identification . . . . . passes test  
 insoluble matter . . . . . max. 0,5 %  
 glucose and fructose . . . . . passes test  
 starch, dextrin and agar . . . . . passes test  
 sterculia gum . . . . . passes test  
 tannins . . . . . passes test  
 tragacanth . . . . . passes test  
 residue on ignition . . . . . max. 4,0 %  
 loss on drying (105 °C) . . . . . max. 15,0 %  
 Elemental impurities are analysed according to guideline CHMP/CH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/CH/283/95.

ART. NO.	VOLUME	CONTAINER
GO00200100	100 g	
GO00200500	500 g	
GO00201000	1 kg	



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## HANUS SOLUTION

RE0020 Hanus solution, IBr solution 0,1 mol/l (0,2 N)



- Synonyms: Iodine solution according to Hanus
- IBr
- Density: 1,06 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 40 °C
- LD 50 (oral, rat): 3310 mg/kg (chief component)
- ADR: 8 CF1 II UN 2920
- IMDG: 8 II UN 2920
- IATA/ICAO: 8 II UN 2920
- GHS-signal word: Danger

- GHS-H sentences: H314 - H226 - H312
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for determination of: iodine.
- Appearance: Brown liquid

suitability for det. of iodine index . . . . . passes test

ART. NO.	VOLUME	CONTAINER
RE00201000	1 l	0

## HEMATOXYLIN, ACCORDING TO HARRIS

HE0060 Hematoxylin, according to Harris

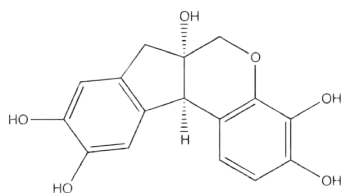
- C<sub>16</sub>H<sub>14</sub>O<sub>6</sub>
- Density: 1,075 g/cm<sup>3</sup>
- Solub. in water: miscible
- Tariff number: 3203 00 19 00
- Applications: for cytology.

Suitable for Papanicolaou stain

ART. NO.	VOLUME	CONTAINER
HE00600500	500 ml	0
HE00601000	1 l	0
HE00602500	2,5 l	0

## HEMATOXYLIN, C.I. 75290

HE0070 Hematoxylin, C.I. 75290, pH indicator



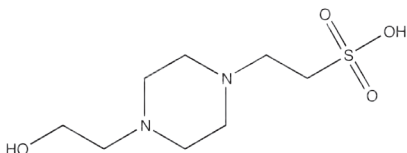
- Synonyms: cis-(+)-7,11β-Dihydrobenz[β]indeno[1,2-δ]pyran-3,4,6a,9,10(6H)pentol, Hydroxybrasilin
- C<sub>16</sub>H<sub>14</sub>O<sub>6</sub>
- M = 302,29 g/mol
- CAS [517-28-2]
- EINECS-No.: 208-237-3
- Solub. in water: (20 °C): slightly soluble
- Melting point: ~ 140 °C (release of crystalline water)
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H332
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 3203 00 10 00
- Applications: manufacture of dyes (microscopy), manufacturing of inks.

pH range (yellow to violet) . . . . . 5,0 - 7,2

ART. NO.	VOLUME	CONTAINER
HE00700005	5 g	0
HE00700025	25 g	0

## HEPES FREE ACID

HE0100 HEPES free acid, molecular biology grade



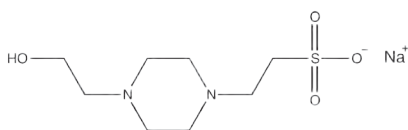
- Synonyms: 4-(2-Hydroxyethyl)-1-piperazineethanesulfonic acid, N-(2-Hydroxyethyl)-piperazine-N'-(2-ethanesulfonic acid)
- C<sub>9</sub>H<sub>18</sub>N<sub>2</sub>O<sub>4</sub>S
- M = 238,3 g/mol
- CAS [7365-45-9]
- EINECS-No.: 230-907-9
- Solub. in water: (20 °C): 400 g/l
- Melting point: 210 - 215 °C
- Tariff number: 2933 59 95 90
- Applications: in buffer solutions (for biology).

assay (acidimetric) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
absorbance of an aqueous solution  
1 M in a 1 cm cell at 260 nm . . . . . max. 0,05 AU  
absorbance of an aqueous solution  
1 M in a 1 cm cell at 280 nm . . . . . max. 0,05 AU  
heavy metals (as Pb) . . . . . max. 5 ppm  
DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
HE01000025	25 g	0
HE01000250	250 g	0

## HEPES, SODIUM SALT

HE0011 HEPES, sodium salt, molecular biology grade



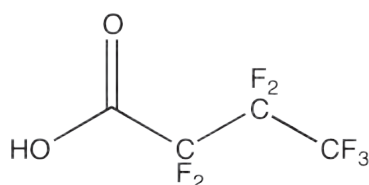
- Synonyms: N-(2-Hydroxyethyl)-piperazine-N'-(2-ethanesulfonic acid) sodium salt
- $C_{12}H_{17}N_2NaO_5S$
- $M = 260,28 \text{ g/mol}$
- CAS [75277-39-3]
- EINECS-No.: 278-169-7
- Tariff number: 2933 59 95 90
- Applications: laboratory reagent, analytical chemistry, in buffer solutions, for biology.

assay (titr. with  $HClO_4$ , referred to dried sample) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 absorbance of an aqueous solution (2 %) in a 1 cm cell at 250 nm ..... max. 0,06 AU  
 chlorides (Cl) ..... max. 0,005 %  
 sulfates ( $SO_4$ ) ..... max. 0,005 %  
 heavy metals (as Pb) ..... max. 5 ppm  
 loss on drying (105 °C) ..... max. 0,5 %

ART. NO.	VOLUME	CONTAINER
HE00110025	25 g	

## HEPTAFLUOROBUTYRIC ACID

AC1235 Heptafluorobutyric acid, 99,5%

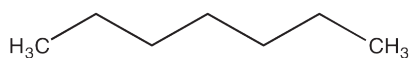


- Synonyms: Perfluorobutyric acid, HFBA, Edman reagent No. 3
- $C_4HF_7O_2$
- $M = 214,04 \text{ g/mol}$
- CAS [375-22-4]
- EINECS-No.: 206-786-3
- Density: 1,645 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -17,5 °C
- Boiling point: (755mm Hg) 120 °C
- ADR: 8 C3 III UN 3265
- IMDG: 8 III UN 3265
- IATA/ICAO: 8 III UN 3265
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2915 90 80 90
- Applications: synthesis of organic products.

assay (acidimetric) ..... min. 99,5 %

ART. NO.	VOLUME	CONTAINER
AC12350100	100 ml	

## n-HEPTANE





- Synonyms: n-Dipropylmethane, n-Heptylhydride
- $C_7H_{16}$
- $M = 100,21 \text{ g/mol}$
- CAS [142-82-5]
- EINECS-No.: 205-563-8
- Density: 0,68 g/cm<sup>3</sup>
- Solub. in water: (20 °C): almost non-miscible
- Melting point: -90,6 °C
- Boiling point: 98,4 °C
- Flash pt. -4 °C
- Ignition temp.: 215 °C
- Vapour pressure: (20 °C) 48 hPa
- Refraction index: (n 20 °C/D) 1,3876
- Dielectric const.: (20 °C) 1,9



- LD 50 (oral, rat): > 15000 mg/kg
- EC-Index-No.: 601-008-00-2
- ADR: 3 F1 II UN 1206
- IMDG: 3 II UN 1206
- IATA/ICAO: 3 II UN 1206
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H400 - H410 - H315 - H336
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P321 - P405 - P501a
- Tariff number: 2901 10 00 00
- Applications: analytical chemistry, as gasoline additive.

HE0123 n-Heptane, 95%, EssentQ®



assay (G.C.) ..... min. 95 %  
 density (20°/4°) ..... 0,683 - 0,685  
 residue on evaporation ..... max. 0,003 %  
 water (K.F.) ..... max. 0,02 %

ART. NO.	VOLUME	CONTAINER
HE01231000	1 l	
HE01232500	2,5 l	

ART. NO.	VOLUME	CONTAINER
HE0123005L	5 l	
HE0123025L	25 l	

## HE0125 n-Heptane, 99%, EssentQ®



assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,683 - 0,685  
 acidity . . . . . max. 0,001 meq/g  
 iron (Fe) . . . . . max. 0,5 ppm  
 copper (Cu) . . . . . max. 0,2 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm

sulfur compounds (as S) . . . . . max. 0,0005 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
HE01251000	1 l	0
HE01252500	2,5 l	0
HE0125005L	5 l	0
HE0125025A	25 l	0
HE0125200L	200 l	0

## HE0127 n-Heptane, 99%, ExpertQ®, for analysis, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,2 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 0,683 - 0,686  
 boiling range (min. 95 %) . . . . . 97 - 98 °C  
 colour (Hazen) . . . . . max. 10  
 refractive index n<sub>20</sub>/D . . . . . 1,387 - 1,388  
 free acid (as CH<sub>3</sub>COOH) . . . . . max. 0,0005 %  
 aluminium (Al) . . . . . max. 0,1 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) . . . . . max. 0,1 %  
 sulfur compounds (as S) . . . . . max. 0,005 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
HE01271000	1 l	0
HE01272500	2,5 l	0
HE0127005L	5 l	0
HE0127007E	7 l	0
HE0127025A	25 l	0
HE0127025S	25 l	0
HE0127030S	30 l	0
HE0127200L	200 l	0

## HE0131 n-Heptane, 99%, HPLC grade



assay (G.C.) . . . . . min. 99,3 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,683 - 0,685  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 residue on evaporation . . . . . max. 0,0002 %  
 water (K.F.) . . . . . max. 0,01 %

min. transmission/max. absorbance in a 1,0 cm cell at wavelength  
 T(%) A (AU)  
 200 nm . . . . . 20 % 0,699 AU  
 210 nm . . . . . 50 % 0,301 AU  
 227 nm . . . . . 90 % 0,046 AU  
 Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
HE01311000	1 l	0
HE01312500	2,5 l	0
HE01314000	4 l	0
HE0131007E	7 l	0
HE0131025S	25 l	0
HE0131185E	185 l	0

## HE0118 n-Heptane, GC ultra-trace analysis grade



assay (G.C.) . . . . . min. 99,3 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,683 - 0,685  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,01 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 2 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl. Suitable for highly volatile halogenated hydrocarbons trace analysis ECD, from dichloromethane to 1,2,4-trichlorobenzene, no peaks are obtained greater than 1 ng/ml as tetrachloromethane.  
 Suitable for pesticide and polycyclic aromatic hydrocarbons residue analysis FID, from 1-octanol to 1-tetradecanol, no peaks are obtained greater than 2 ng/ml as 1-tetradecanol. No peaks are obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
HE01181000	1 l	0
HE01182500	2,5 l	0

## HE0138 Heptane, standard substance for GC



assay . . . . . 99,0 %  
 over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200 °C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
HE01380005	5ml	0

## HE0135 n-Heptane, 99%, ASTM



assay (G.C.) . . . . . min. 99,75 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,683 - 0,685  
 isooctane (G.C.) . . . . . max. 0,1 %  
 lead (Pb) . . . . . max. 0,002 g/gal

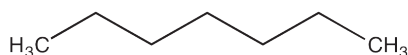
ART. NO.	VOLUME	CONTAINER
HE01352500	2,5 l	0
HE0135025A	25 l	0

ART. NO.	VOLUME	CONTAINER
HE0135185E	185 l	0
HE0135200L	200 l	0










## HEPTANE, FRACTION FROM PETROLEUM

HE0120 Heptane, fraction from petroleum, EssentQ®



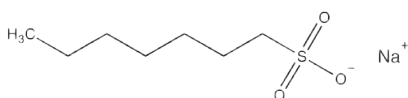
- C<sub>7</sub>H<sub>16</sub>
- M = 100,21 g/mol
- CAS [142-82-5]
- EINECS-No.: 205-563-8
- Density: 0,715 g/cm<sup>3</sup>
- Boiling point: 93 - 99 °C
- Flash pt. -4 °C
- Vapour pressure: (20 °C) 48 hPa
- Dielectric const.: (20 °C) 1,9
- EC-Index-No.: 601-008-00-2
- ADR: 3 F1 II UN 1206
- IMDG: 3 II UN 1206
- IATA/ICAO: 3 II UN 1206
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H400 - H410 - H315 - H336
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P321 - P405 - P501a
- Tariff number: 2901 10 00 00
- Applications: analytical chemistry, for spectroscopy.

boiling range . . . . . 93 - 99 °C  
 density (20°/4°) . . . . . 0,680 - 0,720  
 acidity . . . . . max. 0,001 meq/g  
 copper (Cu) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 sulfur compounds (as S) . . . . . max. 0,005 %  
 thiophene and homologous  
 (as C<sub>4</sub>H<sub>4</sub>S) . . . . . max. 0,0005 %  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
HE01201000	1 l	
HE01202500	2,5 l	
HE0120005L	5 l	
HE0120025A	25 l	
HE0120025S	25 l	
HE0120030S	30 l	
HE0120200E	200 l	


## HEPTANE SULFONIC ACID, SODIUM SALT

AC1241 1-Heptane sulfonic acid, sodium salt, HPLC grade



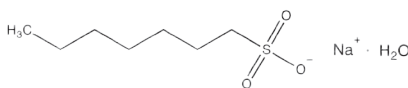
- Synonyms: Sodium 1-heptylsulfonate
- C<sub>7</sub>H<sub>15</sub>NaO<sub>3</sub>S
- M = 202,25 g/mol
- CAS [22767-50-6]
- EINECS-No.: 245-210-5
- Solub. in water: (20 °C): freely soluble
- Tariff number: 2904 10 00 90
- Applications: analytical chemistry, laboratory reagent, chromatography.

assay (acidimetric) . . . . . min. 99,9 %  
 pH (10 %, H<sub>2</sub>O) . . . . . 5,5 - 7,5  
 loss on drying . . . . . max. 1 %  
 absorbance of an aqueous solution  
 0,1M in a 1cm cell at 254 nm . . . . . 0,045 AU  
 absorbance of an aqueous solution 0,005 M in a 1 cm  
 cell at  
 200 nm . . . . . max. 0,15 AU  
 220 nm . . . . . max. 0,05 AU

ART. NO.	VOLUME	CONTAINER
AC12410025	25 g	
AC12410100	100 g	



## HEPTANE SULFONIC ACID, SODIUM SALT MONOHYDRATE

AC1242 1-Heptane sulfonic acid, sodium salt monohydrate, HPLC grade



- Synonyms: Sodium 1-heptylsulfonate monohydrate
- C<sub>7</sub>H<sub>15</sub>NaO<sub>3</sub>S·H<sub>2</sub>O
- M = 220,26 g/mol
- CAS [207300-90-1]
- EINECS-No.: 245-210-5
- Solub. in water: (20 °C): freely soluble
- Tariff number: 2904 10 00 90
- Applications: analytical chemistry, laboratory reagent, chromatography.

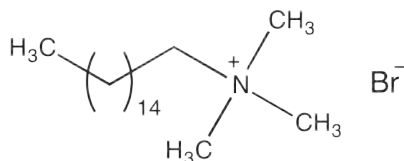
assay (acidimetric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble matter . . . . . passes test  
 max. absorbance of an aqueous sol. 0,25 M in a 1 cm  
 cell at wavelength  
 210 nm . . . . . 0,1 AU  
 220 nm . . . . . 0,06 AU  
 230 nm . . . . . 0,04 AU  
 260 nm . . . . . 0,02 AU

ART. NO.	VOLUME	CONTAINER
AC12420025	25 g	
AC12420100	100 g	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## HEXADECYLTRIMETHYLAMMONIUM BROMIDE

BR0168 Hexadecyltrimethylammonium bromide, EssentQ®



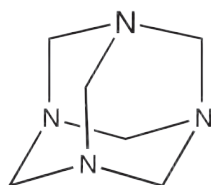
- Synonyms: Cetrimum bromide, Trimethylhexadecylammonium bromide, N-Cetyl-N,N,N-trimethylammonium bromide, CTAB
- $C_{19}H_{42}BrN$
- $M = 364,46 \text{ g/mol}$
- CAS [57-09-0]
- EINECS-No.: 200-311-3
- Solub. in water: (20 °C): 3 g/l
- Melting point: 237 - 243 °C
- LD 50 (oral, rat): 410 mg/kg
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Danger
- GHS-H sentences: H302 - H315 - H318 - H335 - H373 - H410
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 2923 90 00 90
- Applications: chromatography, detergent, antiseptic, laboratory reagent, synthesis of organic products.

assay (argentometric) .....min. 96 %

ART. NO.	VOLUME	CONTAINER
BR01680025	25 g	0
BR01680250	250 g	0
BR01680500	500 g	0

## HEXAMETHYLENETETRAMINE

HE0200 Hexamethylenetetramine, EssentQ®

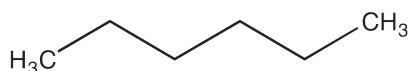


- Synonyms: Hexamine, Methenamine, Formin, Urotropin
- $C_6H_{12}N_4$
- $M = 140,19 \text{ g/mol}$
- CAS [100-97-0]
- EINECS-No.: 202-905-8
- Solub. in water: (20 °C): 100 g/l
- Flash pt. 250 °C
- LD 50 (oral, rat): 9200 mg/kg
- EC-Index-No.: 612-101-00-2
- ADR: 4.1 F1 III UN 1328
- IMDG: 4.1 III UN 1328
- IATA/ICAO: 4.1 III UN 1328
- GHS-signal word: Warning
- GHS-H sentences: H228 - H317

- GHS-P sentences: P210 - P241 - P261 - P280 - P321 - P501a
  - Tariff number: 2933 69 20 00
  - Applications: manufacture of adhesives, in the rubber industry, corrosion inhibitor (steel), in explosive compositions, stabilizer.
- assay (titr. with  $HClO_4$ ) .....min. 99 %  
identity (IR-spectrum) .....passes test  
residue on ignition .....max. 0,05 %

ART. NO.	VOLUME	CONTAINER
HE02000500	500 g	0
HE02001000	1 kg	0

## n-HEXANE 99%



- Synonyms: n-Caproylhydride, n-Hexylhydride
- $C_6H_{14}$
- $M = 86,18 \text{ g/mol}$
- CAS [110-54-3]
- EINECS-No.: 203-777-6
- Density: 0,66 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 0,0095 g/l
- Melting point: -94,3 °C
- Boiling point: 69 °C
- Flash pt. -22 °C
- Ignition temp.: 240 °C
- Vapour pressure: (20 °C) 160 hPa

- Dielectric const.: (20 °C) 1,8
- LD 50 (oral, rat): 28710 mg/kg
- EC-Index-No.: 601-037-00-0
- ADR: 3 F1 II UN 1208
- IMDG: 3 II UN 1208
- IATA/ICAO: 3 II UN 1208
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H315 - H318 - H335 - H373 - H411
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2901 10 00 00

HE0232 n-Hexane, min. 99%, ExpertQ®, for analysis, ACS



assay (G.C.) .....min. 99 %  
identity (IR-spectrum) .....passes test  
density (20°/4°) .....0,659 - 0,662  
appearance .....clear colour (Hazen) .....max. 10  
acidity or alkalinity .....max. 0,0002 meq/g  
aluminium (Al) .....max. 0,5 ppm  
barium (Ba) .....max. 0,1 ppm  
boron (B) .....max. 0,02 ppm  
cadmium (Cd) .....max. 0,05 ppm  
calcium (Ca) .....max. 0,5 ppm  
chromium (Cr) .....max. 0,02 ppm  
cobalt (Co) .....max. 0,02 ppm  
copper (Cu) .....max. 0,02 ppm

iron (Fe) .....max. 0,1 ppm  
lead (Pb) .....max. 0,1 ppm  
magnesium (Mg) .....max. 0,1 ppm  
manganese (Mn) .....max. 0,02 ppm  
nickel (Ni) .....max. 0,02 ppm  
tin (Sn) .....max. 0,1 ppm  
zinc (Zn) .....max. 0,1 ppm  
aromatic hydrocarbons (as  $C_6H_6$ ) .....max. 0,01 %  
sulfur compounds (as S) .....max. 0,005 %  
thiophene ( $C_4H_4S$ ) .....max. 0,0001 %  
substances darkened by  $H_2SO_4$  .....passes test  
residue on evaporation .....max. 0,0005 %  
water (K.F.) .....max. 0,005 %

ART. NO.	VOLUME	CONTAINER
HE02321000	1 l	0
HE02322500	2,5 l	0
HE0232007E	7 l	0
HE0232025S	25 l	0

## HE0242 n-Hexane, 99%, HPLC grade



assay (G.C.) . . . . . min 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,660 - 0,662  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,01 %

min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 200 nm . . . . . .20 % 0,699 AU  
 210 nm . . . . . .50 % 0,301 AU  
 230 nm . . . . . .90 % 0,046 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
HE02421000	1 l	0
HE02422500	2,5 l	0
HE02424000	4 l	0
HE0242025S	25 l	0

## HE0248 n-Hexane, GC-MS



assay (G.C.) . . . . . min. 96,0 %  
 colour (Hazen) . . . . . max. 10  
 identity (IR-spectrum) . . . . . passes test  
 residue on evaporation . . . . . max. 3 ppm  
 water (K.F.) . . . . . max. 0,05 %

GC/MSD (retention range n-undecane to  
 n-tetracontane, scanning area 30 - 600 amu, individual  
 signals  
 (n-tetradecane standard)) . . . . . max. 3,0 ng/ml (ppb)  
 Suitable for residue analysis

ART. NO.	VOLUME	CONTAINER
HE02481000	1 l	0
HE02482500	2,5 l	0

## HE0241 Hexane, standard substance for GC



assay . . . . . 99,0 %  
 over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200 °C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
HE02410005	5 ml	0

## n-HEXANE 96%



- Synonyms: n-Caproylhydride, n-Hexylhydride
- C<sub>6</sub>H<sub>14</sub>
- M = 86,18 g/mol
- CAS [110-54-3]
- EINECS-No.: 203-777-6
- Density: 0,66 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 0,0095 g/l
- Melting point: -94,3 °C
- Boiling point: 69 °C
- Flash pt. -22 °C
- Ignition temp.: 240 °C
- Vapour pressure: (20 °C) 160 hPa
- Dielectric const.: (20 °C) 1,8

- LD 50 (oral, rat): 28710 mg/kg
- EC-Index-No.: 601-037-00-0
- ADR: 3 F1 II UN 1208
- IMDG: 3 II UN 1208
- IATA/ICAO: 3 II UN 1208
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H361f - H373 - H315 - H336 - H411
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2901 10 00 00
- Applications: chromatography, analytical chemistry, determining refractive index of minerals.

## HE0227 n-Hexane, 96%, EssentQ®



assay (G.C.) . . . . . min. 96 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,659 - 0,662  
 acidity . . . . . max. 0,0005 meq/g  
 copper (Cu) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 sulfur compounds (as S) . . . . . max. 0,01 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
HE02271000	1 l	0
HE02272500	2,5 l	0
HE0227005L	5 l	0
HE0227007E	7 l	0
HE0227025A	25 l	0
HE0227025S	25 l	0
HE0227030S	30 l	0

ART. NO.	VOLUME	CONTAINER
HE0227200L	200 l	0

## HE0228 n-Hexane, 96%, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (G.C.) . . . . . min. 96,0 %  
 total isomer content (G.C.) . . . . . min. 98,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 0,659 - 0,663  
 colour (Hazen) . . . . . max. 10  
 refractive index n<sub>20</sub>/D . . . . . 1,375 - 1,376  
 boiling range (min. 95 %) . . . . . 67 - 69 °C  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) . . . . . max. 0,01 %  
 sulfur compounds (as S) . . . . . max. 0,005 %  
 thiophene (C<sub>4</sub>H<sub>4</sub>S) . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,01 %  
 min. transmission in a 1 cm cell  
 between 260 and 420 nm . . . . . .97 %

ART. NO.	VOLUME	CONTAINER
HE02281000	1 l	0
HE02282500	2,5 l	0
HE0228005L	5 l	0
HE0228025A	25 l	0
HE0228025S	25 l	0
HE0228030S	30 l	0

HE0234 n-Hexane, 96%, Multisolvant® HPLC grade ACS UV-VIS



assay (G.C.) . . . . . min. 96 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,659 - 0,662  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0002 meq/g  
 aluminium (Al) . . . . . max. 0,1 ppm  
 barium (Ba) . . . . . max. 0,01 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,3 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,02 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,01 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm

tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,01 ppm  
 aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) . . . . . max. 0,01 %  
 sulfur compounds (as S) . . . . . max. 0,005 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0002 %  
 water (K.F.) . . . . . max. 0,005 %  
 liquid chromatography suitability  
 absorbance . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A(AU)  
 200 nm . . . . . 10 % 1,000 AU  
 210 nm . . . . . 40 % 0,398 AU  
 217 nm . . . . . 70 % 0,155 AU  
 225 nm . . . . . 80 % 0,097 AU  
 245 nm . . . . . 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
HE02341000	1 l	0
HE02342500	2,5 l	0
HE02344000	4 l	0
HE0234007E	7 l	0
HE0234020S	20 l	0
HE0234025S	25 l	0
HE0234030S	30 l	0
HE0234185E	185 l	0

HE0231 n-Hexane, 96%, HPLC grade



assay (G.C.) . . . . . min. 96 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,659 - 0,662  
 acidity . . . . . max. 0,0005 meq/g  
 residue on evaporation . . . . . max. 0,0003 %  
 water (K.F.) . . . . . max. 0,01 %

min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A(AU)  
 200 nm . . . . . 20 % 0,699 AU  
 210 nm . . . . . 50 % 0,301 AU  
 230 nm . . . . . 90 % 0,046 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
HE02311000	1 l	0
HE02312500	2,5 l	0

HE0238 n-Hexane, 96%, for GC residue analysis



assay (G.C.) . . . . . min. 96 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,659 - 0,662  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,01 %

Suitable for organohalogenated pesticide and dioxins,  
 furans and PCBs residue analysis. ECD, from 1,2,4-tri-  
 chlorobenzene to decachlorobiphenyl, no peaks are  
 obtained greater than 3 pg/ml as lindane. No peaks  
 are obtained in vicinity of 2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
HE02381000	1 l	0
HE02382500	2,5 l	0
HE02384000	4 l	0
HE0238007E	7 l	0
HE0238025S	25 l	0

HE0239 n-Hexane, 96%, GC ultra-trace analysis grade



assay (G.C.) . . . . . min. 96 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 0,659 - 0,663  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,01 %  
 Suitable for organohalogenated pesticide and dioxins,  
 furans and PCBs residue analysis. ECD, from 1,2,4-tri-  
 chlorobenzene to decachlorobiphenyl, no peaks are  
 obtained greater than 2 pg/ml as lindane. No peaks  
 are obtained in vicinity of 2,4,5-trichlorobiphenyl.

Suitable for highly volatile halogenated hydrocarbons  
 trace analysis. ECD, from dichloromethane to 1,2,4-tri-  
 chlorobenzene, no peaks are obtained greater than 1  
 ng/ml as tetrachloromethane.  
 Suitable for pesticide and polycyclic aromatic  
 hydrocarbons residue analysis. FID, from  
 1-octanol to 1-tetradecanol, no peaks are obtained  
 greater than 2 ng/ml as 1-tetradecanol. No peaks are  
 obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
HE02391000	1 l	0
HE02392500	2,5 l	0
HE02394000	4 l	0

HE0233 n-Hexane, 96%, anhydrous (max. 0,002% H<sub>2</sub>O)



assay (G.C.) . . . . . min. 96 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 0,659 - 0,663  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) . . . . . max. 0,01 %  
 sulfur compounds (as S) . . . . . max. 0,005 %  
 thiophene (C<sub>4</sub>H<sub>4</sub>S) . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
HE02331000	1 l	0

## HEXANE, FRACTION FROM PETROLEUM

- $C_6H_{14}$
- $M = 86,18 \text{ g/mol}$
- CAS [92112-69-1]
- EINECS-No.: 295-570-2
- Density:  $0,67 \text{ g/cm}^3$
- Solub. in water: (20 °C): insoluble
- Boiling point: 65 - 70 °C
- Flash pt. -22 °C

- Vapour pressure: (20 °C) 160 hPa
- Refraction index: ( $n_{20 \text{ °C/D}}$ ) 1,380
- EC-Index-No.: 601-037-00-0
- ADR: 3 F1 II UN 1208
- IMDG: 3 II UN 1208
- IATA/ICAO: 3 II UN 1208
- GHS-signal word: Danger

- GHS-H sentences: H224 - H304 - H361 - H373 - H315 - H336 - H411
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2901 10 00 00
- Applications: analytical chemistry, for spectroscopy, manufacture of dyes.
- Appearance: Colourless clear liquid

### HE0219 Hexane, fraction from petroleum, EssentQ®



boiling range ..... 65 - 70 °C  
residue on evaporation .....max. 0,003 %  
water (K.F.) .....max. 0,02 %

ART. NO.	VOLUME	CONTAINER
HE02191000	1 l	
HE02192500	2,5 l	
HE0219005L	5 l	
HE0219007E	7 l	

ART. NO.	VOLUME	CONTAINER
HE0219025L	25 l	
HE0219025S	25 l	
HE0219025P	25 l	
HE0219030S	30 l	

### HE0220 Hexane, fraction from petroleum, EssentQ®



boiling range ..... 65 - 70 °C  
acidity .....max. 0,0005 meq/g  
copper (Cu) .....max. 0,2 ppm  
iron (Fe) .....max. 0,5 ppm  
lead (Pb) .....max. 0,2 ppm

nickel (Ni) .....max. 0,2 ppm  
sulfur compounds (as S) .....max. 0,005 %  
residue on evaporation .....max. 0,001 %  
water (K.F.) .....max. 0,02 %

ART. NO.	VOLUME	CONTAINER
HE0220025A	25 l	
HE0220030S	30 l	

### HE0222 Hexane, fraction from petroleum, ExpertQ®, for analysis



boiling range ..... 65 - 70 °C  
colour (Hazen) .....max. 10  
acidity .....max. 0,0002 meq/g  
aluminium (Al) .....max. 0,5 ppm  
barium (Ba) .....max. 0,01 ppm  
boron (B) .....max. 0,02 ppm  
cadmium (Cd) .....max. 0,05 ppm  
calcium (Ca) .....max. 0,5 ppm  
chromium (Cr) .....max. 0,02 ppm  
cobalt (Co) .....max. 0,02 ppm  
copper (Cu) .....max. 0,02 ppm  
iron (Fe) .....max. 0,1 ppm

lead (Pb) .....max. 0,1 ppm  
magnesium (Mg) .....max. 0,1 ppm  
manganese (Mn) .....max. 0,02 ppm  
nickel (Ni) .....max. 0,02 ppm  
tin (Sn) .....max. 0,1 ppm  
zinc (Zn) .....max. 0,1 ppm  
aromatic hydrocarbons (as  $C_6H_6$ ) .....max. 0,01 %  
sulfur compounds (as S) .....max. 0,005 %  
substances darkened by  $H_2SO_4$  .....passes test  
residue on evaporation .....max. 0,0005 %  
water (K.F.) .....max. 0,01 %

ART. NO.	VOLUME	CONTAINER
HE02221000	1 l	
HE02222500	2,5 l	
HE0222005L	5 l	
HE0222007E	7 l	
HE0222025S	25 l	
HE0222025A	25 l	

### HE0221 Hexane, fraction from petroleum, Multisolvant® HPLC grade ACS



boiling range ..... 65 - 70 °C  
appearance ..... clear  
colour (Hazen) .....max. 10  
acidity .....max. 0,0002 meq/g  
aluminium (Al) .....max. 0,1 ppm  
barium (Ba) .....max. 0,01 ppm  
boron (B) .....max. 0,02 ppm  
cadmium (Cd) .....max. 0,01 ppm  
calcium (Ca) .....max. 0,3 ppm  
chromium (Cr) .....max. 0,02 ppm  
cobalt (Co) .....max. 0,02 ppm  
copper (Cu) .....max. 0,02 ppm  
iron (Fe) .....max. 0,02 ppm  
lead (Pb) .....max. 0,1 ppm  
magnesium (Mg) .....max. 0,1 ppm  
manganese (Mn) .....max. 0,01 ppm  
nickel (Ni) .....max. 0,02 ppm

tin (Sn) .....max. 0,1 ppm  
zinc (Zn) .....max. 0,01 ppm  
aromatic hydrocarbons (as  $C_6H_6$ ) .....max. 0,01 %  
sulfur compounds (as S) .....max. 0,005 %  
substances darkened by  $H_2SO_4$  .....passes test  
residue on evaporation .....max. 0,0002 %  
water (K.F.) .....max. 0,01 %  
liquid chromatography suitability  
absorbance .....passes test  
min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A (AU)  
200 nm .....10 % 1,000 AU  
210 nm .....30 % 0,523 AU  
230 nm .....90 % 0,046 AU  
254 nm .....99 % 0,004 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
HE02211000	1 l	
HE02212500	2,5 l	
HE0221007E	7 l	
HE0221025S	25 l	
HE0221030S	30 l	

### HE0223 Hexane, fraction from petroleum, for GC residue analysis



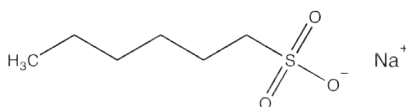
residue on evaporation .....max. 0,0001 %  
water (K.F.) .....max. 0,01 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
HE02232500	2,5 l	

## 1-HEXANE SULFONIC ACID, SODIUM SALT

AC1246 1-Hexane sulfonic acid, sodium salt, HPLC grade



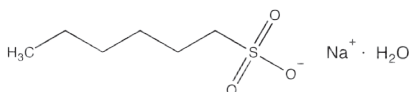
- Synonyms: Sodium 1-hexylsulfonate
- $C_6H_{13}NaO_3S$
- $M = 188,22 \text{ g/mol}$
- CAS [2832-45-3]
- EINECS-No.: 220-601-3
- Tariff number: 2904 10 00 90
- Applications: analytical chemistry, chromatography.

assay (acidimetric) . . . . . min. 99 %  
pH (10 %,  $H_2O$ ) . . . . . 5,5 - 7,5  
loss on drying . . . . . max. 1 %  
absorbance of an aqueous solution  
0,1M in a 1cm cell at 254nm . . . . . max. 0,045 AU  
absorbance of an aqueous solution 0,005M in a 1cm  
cell at  
200 nm . . . . . max. 0,15 AU  
220 nm . . . . . max. 0,05 AU

ART. NO.	VOLUME	CONTAINER
AC12460025	25 g	0
AC12460100	100 g	0

## 1-HEXANE SULFONIC ACID, SODIUM SALT MONOHYDRATE

AC1247 1-Hexane sulfonic acid, sodium salt monohydrate, HPLC grade



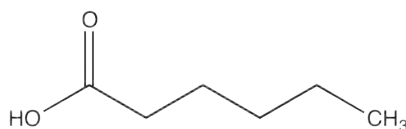
- Synonyms: Sodium 1-hexylsulfonate monohydrate
- $C_6H_{13}NaO_3S \cdot H_2O$
- $M = 206,24 \text{ g/mol}$
- CAS [207300-91-2]
- EINECS-No.: 220-601-3
- Solub. in water: (20 °C): freely soluble
- Tariff number: 2904 10 00 90
- Applications: analytical chemistry, chromatography.

assay (acidimetric) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
insoluble matter . . . . . passes test  
max. absorbance of an aqueous sol. 10 % in a 1,0 cm  
cell at wavelength . . . . . absorbance  
210 nm . . . . . 0,1 AU  
220 nm . . . . . 0,06 AU  
230 nm . . . . . 0,04 AU  
260 nm . . . . . 0,02 AU

ART. NO.	VOLUME	CONTAINER
AC12470025	25 g	0
AC12470100	100 g	0

## HEXANOIC ACID

AC0680 Hexanoic acid, EssentQ®



- Synonyms: Caproic acid
- $C_6H_{12}O_2$
- $M = 116,16 \text{ g/mol}$
- CAS [142-62-1]
- EINECS-No.: 205-550-7
- Density: 0,93  $g/cm^3$
- Solub. in water: (20 °C): sparingly miscible
- Melting point: ~ -3 °C
- Boiling point: ~ 206 °C
- Flash pt. 102 °C
- Ignition temp.: 380 °C
- Vapour pressure: (20 °C) 0,3 hPa
- Refraction index: (n 20 °C/D) 1,4162
- LD 50 (oral, rat): > 2000 mg/kg
- ADR: 8 C3 III UN 2829
- IMDG: 8 III UN 2829
- IATA/ICAO: 8 III UN 2829
- GHS-signal word: Danger
- GHS-H sentences: H311 - H314 - H302
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2915 90 80 90
- Applications: analytical chemistry, chromatography, perfumery.

assay (G.C.) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,926 - 0,927  
acidity index . . . . . 473 - 482  
iodine index . . . . . max. 0,2  
saponifiable impurities . . . . . max. 1 %  
residue on ignition . . . . . max. 0,05 %

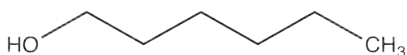
ART. NO.	VOLUME	CONTAINER
AC06801000	1 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z



## 1-HEXANOL

AL0270 1-Hexanol, EssentQ®



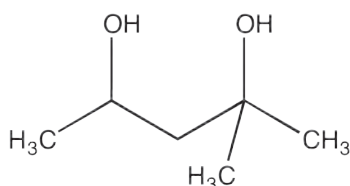
- Synonyms: n-Hexyl alcohol
- $C_6H_{14}O$
- $M = 102,18$  g/mol
- CAS [111-27-3]
- EINECS-No.: 203-852-3
- Density:  $0,82$  g/cm<sup>3</sup>
- Solub. in water: (20 °C): 5,8 g/l
- Melting point: -45 °C
- Boiling point: 157 °C
- Flash pt. 62 °C
- Ignition temp.: 285 °C
- Vapour pressure: (20 °C) 1 hPa
- Refraction index: (n 20 °C/D) 1,4179
- LD 50 (oral, rat): 720 mg/kg
- EC-Index-No.: 603-059-00-6
- ADR: 3 F1 III UN 2282
- IMDG: 3 III UN 2282
- IATA/ICAO: 3 III UN 2282
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2905 19 00 99
- Applications: synthesis of organic products, for pharmaceutical use.

assay (G.C.) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,818 - 0,819  
 residue on evaporation . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AL02701000	1 l	

## HEXYLENE GLYCOL

HE0250 Hexylene glycol, EssentQ®



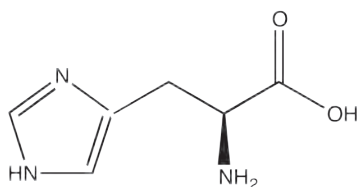
- Synonyms: 2-Methyl-2,4-pentanediol
- $C_6H_{14}O_2$
- $M = 118,18$  g/mol
- CAS [107-41-5]
- EINECS-No.: 203-489-0
- Density:  $0,92$  g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -40 °C
- Boiling point: 196 °C
- Flash pt. 93 °C
- Ignition temp.: 425 °C
- Vapour pressure: (20 °C) 0,06 hPa
- Refraction index: (n 20 °C/D) 1,4270
- LD 50 (oral, rat): 4000 mg/kg
- EC-Index-No.: 603-053-00-3
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2905 39 10 00
- Applications: synthesis of organic products, for pharmaceutical use, cosmetics.

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,921 - 0,923  
 free acid (as  $CH_3COOH$ ) . . . . . max. 0,01 %  
 residue on ignition . . . . . max. 0,01 %  
 water (K.F.) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
HE02501000	1 l	

## L-HISTIDINE

HI0395 L-Histidine, extra pure, Pharnpur®, Ph Eur, BP, USP



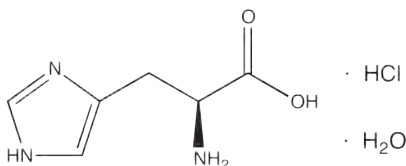
- Synonyms: L-3-Imidazol-4-alanine
- $C_6H_9N_3O_2$
- $M = 155,16$  g/mol
- CAS [71-00-1]
- EINECS-No.: 200-745-3
- Solub. in water: (20 °C): 38,2 g/l
- Melting point: 272 - 273 °C (decomposes)
- LD 50 (oral, rat): > 5110 mg/kg
- Tariff number: 2933 21 00 90
- Applications: in biochemistry, for pharmaceutical use, in food industry, in pharma industry.

assay (acidimetric, on dried sample) . . . . . 98,5 - 101,5 %  
 identity (IR-spectrum) . . . . . passes test  
 specific rotation ( $[\alpha]_{20}^{20}$ , c = 11, HCl 3,3 mol/l) . . . . . +11,4° - +12,4°  
 appearance of solution . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,03 %  
 sulfates ( $SO_4$ ) . . . . . max. 0,03 %  
 ammonium ( $NH_4$ ) . . . . . max. 0,02 %  
 heavy metals (as Pb) . . . . . max. 0,0015 %  
 iron (Fe) . . . . . max. 0,003 %  
 ninhydrin-positive substances . . . . . max. 0,5 %  
 related substances . . . . . max. 0,2 %  
 residue on ignition . . . . . max. 0,4 %  
 loss on drying (105 °C) . . . . . max. 0,5 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
HI03950025	25 g	
HI03950100	100 g	
HI03951000	1 kg	

## L-HISTIDINE HYDROCHLORIDE MONOHYDRATE

HI0405 L-Histidine hydrochloride monohydrate, extra pure, Pharpur®, Ph Eur, BP



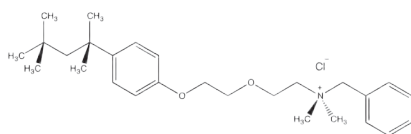
- Synonyms: (S)- $\alpha$ -Amino-1H-imidazole-4-propanoic acid
- $C_9H_9N_3O_2 \cdot HCl \cdot H_2O$
- $M = 209,63 \text{ g/mol}$
- CAS [5934-29-2]
- EINECS-No.: 211-438-9
- Solub. in water: (20 °C): 169,9 g/l
- Melting point: 259 °C (decomposes)
- Tariff number: 2933 21 00 90
- Applications: in biochemistry, for pharmaceutical use, in pharma industry.

assay (acidimetric, referred to dried sample) . . . . . 98,5 - 101,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 specific rotation ( $[\alpha]_{20}^{20}/D, c = 11, \text{HCl } 120 \text{ g/l}$  on dried sample)+ 9,2° - + 10,6°  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 300 ppm  
 ammonium ( $\text{NH}_4$ ) . . . . . max. 0,02 %  
 iron (Fe) . . . . . max. 10 ppm  
 ninhydrin-positive substances . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (150 °C) . . . . . 7,0 - 10,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
HI04050025	25 g	0
HI04050100	100 g	0

## HYAMINE® 1622

HY0002 Hyamine® 1622 (Hyamine is a trademark of Rohm and Haas Company)



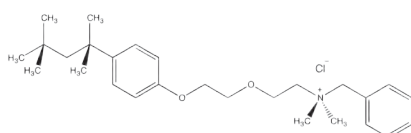
- Synonyms: N-Benzyl-N,N-dimethyl-N-[4-(1,1,3,3-tetramethylbutyl)-phenoxyethoxyethyl]ammonium chloride, Benzethonium chloride
- $C_{27}H_{42}ClNO_2$
- $M = 448,18 \text{ g/mol}$
- CAS [121-54-0]
- EINECS-No.: 204-479-9
- Solub. in water: (20 °C): freely soluble
- Melting point: 164 - 166 °C
- LD 50 (oral, rat): 368 mg/kg
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319 - H411
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 2923 90 00 90
- Applications: analytical chemistry, for the analysis of: tensioactive substances (detergent).

assay (titration with  $\text{HClO}_4$ , on dried sample) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 pH (10 %,  $\text{H}_2\text{O}$ ) . . . . . 5,0 - 6,5  
 water (K.F.) . . . . . max. 4 %

ART. NO.	VOLUME	CONTAINER
HY00020250	250 g	0

## HYAMINE® 1622, VOLUMETRIC SOLUTIONS

HY0001 Hyamine® 1622, solution 0,004 mol/l (Hyamine is a trademark of Rohm and Haas Company)



- $C_{27}H_{42}ClNO_2$
- $M = 448,18 \text{ g/mol}$
- CAS [121-54-0]
- EINECS-No.: 204-479-9
- Density: 1,0 g/cm<sup>3</sup>
- Tariff number: 2923 90 00 90
- Applications: analytical chemistry, for determination of: tensioactive substances (detergent).

factor . . . . . 0,995 - 1,005  
 1 ml = 0,001792 g Hyamine  
 This volumetric solution was checked by means of classical methods using a freshly prepared sodium lauryl standard solution made of sodium lauryl sulfate, reagent grade.

ART. NO.	VOLUME	CONTAINER
HY00011000	1 l	0
HY00012500	2,5 l	0
HY0001005P	5 l	0

## HYDRAZINE HYDRATE, 100%

HI0092 Hydrazine hydrate, 100%, EssentQ®



- Synonyms: Hydrazinium hydroxide
- $N_2H_4 \cdot H_2O$
- $M = 50,06$  g/mol
- CAS [7803-57-8]
- EINECS-No.: 206-114-9
- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -51,7 °C
- Boiling point: 120,5 °C
- Flash pt. 75 °C
- Ignition temp.: 280 °C
- Vapour pressure: (20 °C) 20 hPa
- Refraction index: (n 20 °C/D) 1,4284
- LD 50 (oral, rat): 129 mg/kg

- ADR: 8 CT1 II UN 2030
- IMDG: 8 II UN 2030
- IATA/ICAO: 8 II UN 2030
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H330 - H350 - H314 - H400 - H410 - H317
- GHS-P sentences: P303 + P361 + P353 - P305 + P351 + P338 - P320 - P361 - P405 - P501a
- Tariff number: 2825 10 00 90
- Applications: analytical chemistry, synthesis of organic products, solvents.
- Appearance: Colourless liquid

assay (iodometric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,030 - 1,032

ART. NO.	VOLUME	CONTAINER
HI00921000	1 l	0

## HYDRAZINE HYDRATE, 80%

HI0090 Hydrazine hydrate, solution 80% w/w, EssentQ®



- Synonyms: Hydrazinium hydroxide
- $N_2H_4 \cdot H_2O$
- $M = 50,06$  g/mol
- CAS [7803-57-8]
- EINECS-No.: 206-114-9
- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -60°C
- Boiling point: 117 - 119°C
- Flash pt. 73°C
- Ignition temp.: 310°C
- Vapour pressure: (20 °C) 13 hPa
- LD 50 (oral, rat): 129 mg/kg (pure substance)
- ADR: 8 CT1 II UN 2030

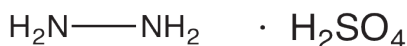
- IMDG: 8 II UN 2030
- IATA/ICAO: 8 II UN 2030
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H330 - H350 - H314 - H400 - H410 - H317
- GHS-P sentences: P303 + P361 + P353 - P305 + P351 + P338 - P320 - P361 - P405 - P501a
- Tariff number: 2825 10 00 90
- Applications: analytical chemistry, synthesis of organic products, solvents.
- Appearance: Colourless liquid

assay (iodometric) . . . . . min. 80 %

ART. NO.	VOLUME	CONTAINER
HI00900250	250 ml	0
HI00901000	1 l	0

## HYDRAZINE SULFATE

HI0110 Hydrazine sulfate, ExpertQ®, for analysis, ACS



- Synonyms: Hydrazinium sulfate, Hydrazonium sulfate
- $N_2H_4 \cdot H_2SO_4$
- $M = 130,12$  g/mol
- CAS [10034-93-2]
- EINECS-No.: 233-110-4
- Solub. in water: (20 °C): 30 g/l
- Melting point: 254°C (decomposes)
- LD 50 (oral, rat): 601 mg/kg
- EC-Index-No.: 007-014-00-6
- ADR: 6.1 T5 III UN 3288
- IMDG: 6.1 III UN 3288
- IATA/ICAO: 6.1 III UN 3288
- GHS-signal word: Danger
- GHS-H sentences: H311 - H330 - H350 - H400 - H410 - H302 - H317
- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a
- Tariff number: 2825 10 00 00
- Applications: analytical chemistry, oxidizing agent, Separation and identification of: tellurium and polonium, for the synthesis of: azides.

assay (iodometric) . . . . . min. 99,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,001 %  
 residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
HI01100100	100 g	0
HI01100500	500 g	0
HI01101000	1 kg	0

## HYDRIODIC ACID, 57%

AC3350 Hydriodic acid, 57%, ExpertQ®, for analysis



- Synonyms: Hydrogen iodide solution
- HI
- M = 127,91 g/mol
- CAS [10034-85-2]
- EINECS-No.: 233-109-9
- Density: 1,70 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Boiling point: ~ 127 °C
- EC-Index-No.: 053-002-00-9
- ADR: 8 C1 II UN 1787
- IMDG: 8 II UN 1787
- IATA/ICAO: 8 II UN 1787
- GHS-signal word: Danger
- GHS-H sentences: H314 - H335
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2811 19 80 90
- Applications: analytical chemistry, reducing agent (organic substances).

assay (acidimetric) . . . . . min. 57,0 %  
chlorides and bromides (as Cl) . . . . . max. 0,01 %  
P compounds (as PO<sub>4</sub>) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
aluminium (Al) . . . . . max. 1 ppm  
arsenic (As) . . . . . max. 1 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
beryllium (Be) . . . . . max. 0,1 ppm  
bismuth (Bi) . . . . . max. 0,1 ppm  
cadmium (Cd) . . . . . max. 0,1 ppm  
calcium (Ca) . . . . . max. 1 ppm  
chromium (Cr) . . . . . max. 0,1 ppm  
cobalt (Co) . . . . . max. 0,1 ppm  
copper (Cu) . . . . . max. 0,1 ppm  
germanium (Ge) . . . . . max. 0,1 ppm  
iron (Fe) . . . . . max. 2 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
lithium (Li) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 5 ppm  
manganese (Mn) . . . . . max. 0,1 ppm  
molybdenum (Mo) . . . . . max. 0,1 ppm

nickel (Ni) . . . . . max. 0,1 ppm  
potassium (K) . . . . . max. 1 ppm  
sodium (Na) . . . . . max. 1 ppm  
strontium (Sr) . . . . . max. 0,1 ppm  
thallium (Tl) . . . . . max. 0,1 ppm  
titanium (Ti) . . . . . max. 0,1 ppm  
vanadium (V) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,5 ppm  
zirconium (Zr) . . . . . max. 0,1 ppm  
residue on ignition . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AC33500100	100 ml	0
AC33501000	1 l	0

## HYDROBROMIC ACID, 48%

AC0596 Hydrobromic acid, 48%, ExpertQ®, for analysis, ACS, ISO



- HBr
- M = 80,92 g/mol
- CAS [10035-10-6]
- EINECS-No.: 233-113-0
- Density: 1,49 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -11 °C
- Boiling point: ~ 126 °C
- Vapour pressure: (20 °C) 10,6 hPa
- EC-Index-No.: 035-002-00-0
- ADR: 8 C1 II UN 1788
- IMDG: 8 II UN 1788
- IATA/ICAO: 8 II UN 1788
- GHS-signal word: Danger
- GHS-H sentences: H314 - H335
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2811 19 10 00
- Applications: analytical chemistry, synthesis of organic products and inorganic salts, solvents.

assay (acidimetric) . . . . . 47 - 49 %  
chlorides (Cl) . . . . . max. 0,02 %  
iodides (I) . . . . . max. 0,002 %  
phosphates, phosphites (as PO<sub>4</sub>) . . . . . max. 0,0002 %  
sulfates and sulfites (as SO<sub>4</sub>) . . . . . max. 0,003 %  
aluminium (Al) . . . . . max. 0,1 ppm  
arsenic (As) . . . . . max. 0,1 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
beryllium (Be) . . . . . max. 0,02 ppm  
bismuth (Bi) . . . . . max. 0,1 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,1 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
germanium (Ge) . . . . . max. 0,05 ppm  
heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,02 ppm  
lithium (Li) . . . . . max. 0,02 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,05 ppm

molybdenum (Mo) . . . . . max. 0,05 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
potassium (K) . . . . . max. 0,1 ppm  
selenium (Se) . . . . . max. 0,01 ppm  
sodium (Na) . . . . . max. 0,5 ppm  
strontium (Sr) . . . . . max. 0,02 ppm  
thallium (Tl) . . . . . max. 0,05 ppm  
titanium (Ti) . . . . . max. 0,1 ppm  
vanadium (V) . . . . . max. 0,05 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
zirconium (Zr) . . . . . max. 0,1 ppm  
residue on ignition . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
AC05961000	1 l	0
AC0596025A	25 l	0

## HYDROCHLORIC ACID, 37%

- Synonyms: Hydrochloric acid fuming, Muriatic acid, Hydrogen chloride solution
- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: ~ 1,19 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible

- Melting point: -28 °C
- Boiling point: ~ 50 °C
- Vapour pressure: (20 °C) 190 hPa
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Danger

- GHS-H sentences: H314 - H335
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2806 10 00 00
- Applications: laboratory reagent, acidifying agent, in the production of chlorides, synthesis of organic products.

AC0736 Hydrochloric acid, 37%, extra pure, Pharpur®, Ph Eur, BP, NF, JP



assay (acidimetric) . . . . . 36,5 - 38,0 %  
identification . . . . . passes test  
appearance of solution . . . . . clear and colourless  
bromine or chlorine . . . . . passes test  
bromide or iodide . . . . . passes test  
free bromine or chlorine . . . . . passes test  
free chlorine (as Cl) . . . . . max. 4 ppm  
sulfates (SO<sub>4</sub>) . . . . . max. 20 ppm  
sulfates (SO<sub>3</sub>) . . . . . passes test  
sulfites (SO<sub>3</sub>) . . . . . passes test

arsenic (As) . . . . . max. 1 ppm  
heavy metals (as Pb) . . . . . max. 5 ppm  
mercury (Hg) . . . . . max. 0,04 ppm  
residue on ignition (as SO<sub>4</sub>) . . . . . max. 0,008 %  
residue on evaporation . . . . . max. 0,01 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC07361000	1 l	0
AC07362500	2,5 l	0
AC0736005P	5 l	0
AC0736025P	25 l	0

## AC0741 Hydrochloric acid, 37%, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (acidimetric) . . . . .	36,5 - 38,0 %	gold (Au) . . . . .	max. 0,05 ppm
identity . . . . .	passes test	heavy metals . . . . .	max. 0,0001 %
appearance of solution . . . . .	clear and colourless	iron (Fe) . . . . .	max. 0,1 ppm
colour (Hazen) . . . . .	max. 10	lead (Pb) . . . . .	max. 0,01 ppm
bromides (Br) . . . . .	max. 0,005 %	lithium (Li) . . . . .	max. 0,01 ppm
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,00005 %	magnesium (Mg) . . . . .	max. 0,05 ppm
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,00005 %	manganese (Mn) . . . . .	max. 0,01 ppm
sulfites (SO <sub>3</sub> ) . . . . .	max. 0,00005 %	mercury (Hg) . . . . .	max. 0,01 ppm
free chlorine (as Cl) . . . . .	max. 0,00004 %	molybdenum (Mo) . . . . .	max. 0,01 ppm
aluminium (Al) . . . . .	max. 0,05 ppm	nickel (Ni) . . . . .	max. 0,02 ppm
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,0001 %	platinum (Pt) . . . . .	max. 0,1 ppm
arsenic (As) . . . . .	max. 0,01 ppm	potassium (K) . . . . .	max. 0,1 ppm
barium (Ba) . . . . .	max. 0,01 ppm	silver (Ag) . . . . .	max. 0,02 ppm
beryllium (Be) . . . . .	max. 0,01 ppm	sodium (Na) . . . . .	max. 0,3 ppm
bismuth (Bi) . . . . .	max. 0,05 ppm	strontium (Sr) . . . . .	max. 0,01 ppm
boron (B) . . . . .	max. 0,1 ppm	thallium (Tl) . . . . .	max. 0,02 ppm
cadmium (Cd) . . . . .	max. 0,01 ppm	tin (Sn) . . . . .	max. 0,05 ppm
calcium (Ca) . . . . .	max. 0,3 ppm	titanium (Ti) . . . . .	max. 0,02 ppm
chromium (Cr) . . . . .	max. 0,01 ppm	vanadium (V) . . . . .	max. 0,01 ppm
cobalt (Co) . . . . .	max. 0,01 ppm	zinc (Zn) . . . . .	max. 0,05 ppm
copper (Cu) . . . . .	max. 0,01 ppm	zirconium (Zr) . . . . .	max. 0,02 ppm
gallium (Ga) . . . . .	max. 0,05 ppm	residue on ignition . . . . .	max. 0,0003 %
germanium (Ge) . . . . .	max. 0,02 ppm	residue on evaporation . . . . .	max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AC07411000	1 l	0
AC07411001	1 l	0
AC07412500	2,5 l	0
AC07412501	2,5 l	0
AC0741005P	5 l	P
AC0741025P	25 l	P

## AC0730 Hydrochloric acid, 37%, ExpertQ®, for analysis, ACS, ISO, max. 0,0000005% Hg



assay (acidimetric) . . . . .	36,5 - 38,0 %	heavy metals (as Pb) . . . . .	max. 1 ppm
appearance . . . . .	passes test	iron (Fe) . . . . .	max. 0,2 ppm
colour (Hazen) . . . . .	max. 10	lead (Pb) . . . . .	max. 0,02 ppm
bromides (Br) . . . . .	max. 0,005 %	lithium (Li) . . . . .	max. 0,01 ppm
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,00005 %	magnesium (Mg) . . . . .	max. 0,1 ppm
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,0001 %	manganese (Mn) . . . . .	max. 0,01 ppm
sulfites (SO <sub>3</sub> ) . . . . .	max. 0,0001 %	mercury (Hg) . . . . .	max. 0,005 ppm
free chlorine (as Cl) . . . . .	max. 0,00005 %	molybdenum (Mo) . . . . .	max. 0,02 ppm
aluminium (Al) . . . . .	max. 0,05 ppm	nickel (Ni) . . . . .	max. 0,02 ppm
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,0001 %	potassium (K) . . . . .	max. 0,1 ppm
arsenic (As) . . . . .	max. 0,01 ppm	sodium (Na) . . . . .	max. 0,5 ppm
barium (Ba) . . . . .	max. 0,02 ppm	strontium (Sr) . . . . .	max. 0,01 ppm
beryllium (Be) . . . . .	max. 0,02 ppm	thallium (Tl) . . . . .	max. 0,05 ppm
bismuth (Bi) . . . . .	max. 0,1 ppm	titanium (Ti) . . . . .	max. 0,1 ppm
cadmium (Cd) . . . . .	max. 0,01 ppm	vanadium (V) . . . . .	max. 0,01 ppm
calcium (Ca) . . . . .	max. 0,5 ppm	zinc (Zn) . . . . .	max. 0,05 ppm
chromium (Cr) . . . . .	max. 0,02 ppm	zirconium (Zr) . . . . .	max. 0,1 ppm
cobalt (Co) . . . . .	max. 0,01 ppm	residue on ignition . . . . .	max. 0,0005 %
copper (Cu) . . . . .	max. 0,02 ppm	extractable organic substances . . . . .	passes test (about 0,0005 %)
germanium (Ge) . . . . .	max. 0,05 ppm		

ART. NO.	VOLUME	CONTAINER
AC07301000	1 l	0
AC07302500	2,5 l	0

## AC0780 Hydrochloric acid, 37%, Ultratrace®, ppb-trace analysis grade



assay (acidimetric) . . . . .	34 - 37 %	magnesium (Mg) . . . . .	max. 0,5 ppb
colour (Hazen) . . . . .	max. 10	manganese (Mn) . . . . .	max. 0,1 ppb
bromides (Br) . . . . .	max. 0,001 %	mercury (Hg) . . . . .	max. 0,1 ppb
free chlorine (as Cl) . . . . .	max. 0,00005 %	molybdenum (Mo) . . . . .	max. 0,1 ppb
total phosphorus (P) . . . . .	max. 10 ppb	neodymium (Nd) . . . . .	max. 0,1 ppb
total sulfur (S) . . . . .	max. 300 ppb	nickel (Ni) . . . . .	max. 0,5 ppb
aluminium (Al) . . . . .	max. 1 ppb	niobium (Nb) . . . . .	max. 0,1 ppb
antimony (Sb) . . . . .	max. 0,5 ppb	potassium (K) . . . . .	max. 1 ppb
arsenic (As) . . . . .	max. 0,5 ppb	praseodymium (Pr) . . . . .	max. 0,1 ppb
barium (Ba) . . . . .	max. 0,1 ppb	rhenium (Re) . . . . .	max. 0,1 ppb
beryllium (Be) . . . . .	max. 0,1 ppb	rhodium (Rh) . . . . .	max. 0,1 ppb
bismuth (Bi) . . . . .	max. 0,1 ppb	rubidium (Rb) . . . . .	max. 0,1 ppb
boron (B) . . . . .	max. 1 ppb	ruthenium (Ru) . . . . .	max. 0,1 ppb
cadmium (Cd) . . . . .	max. 0,1 ppb	samarium (Sm) . . . . .	max. 0,1 ppb
calcium (Ca) . . . . .	max. 1 ppb	scandium (Sc) . . . . .	max. 0,1 ppb
cerium (Ce) . . . . .	max. 0,1 ppb	selenium (Se) . . . . .	max. 1 ppb
cesium (Cs) . . . . .	max. 0,1 ppb	silver (Ag) . . . . .	max. 1 ppb
chromium (Cr) . . . . .	max. 0,5 ppb	sodium (Na) . . . . .	max. 1 ppb
cobalt (Co) . . . . .	max. 0,1 ppb	strontium (Sr) . . . . .	max. 0,1 ppb
copper (Cu) . . . . .	max. 0,5 ppb	tellurium (Te) . . . . .	max. 0,1 ppb
dysprosium (Dy) . . . . .	max. 0,1 ppb	terbium (Tb) . . . . .	max. 0,1 ppb
erbium (Er) . . . . .	max. 0,1 ppb	thallium (Tl) . . . . .	max. 0,1 ppb
europium (Eu) . . . . .	max. 0,1 ppb	thorium (Th) . . . . .	max. 0,1 ppb
gadolinium (Gd) . . . . .	max. 0,1 ppb	thulium (Tm) . . . . .	max. 0,1 ppb
gallium (Ga) . . . . .	max. 0,1 ppb	tin (Sn) . . . . .	max. 0,5 ppb
gold (Au) . . . . .	max. 0,5 ppb	titanium (Ti) . . . . .	max. 0,5 ppb
hafnium (Hf) . . . . .	max. 0,1 ppb	tungsten (W) . . . . .	max. 0,1 ppb
holmium (Ho) . . . . .	max. 0,1 ppb	uranium (U) . . . . .	max. 0,1 ppb
indium (In) . . . . .	max. 0,1 ppb	vanadium (V) . . . . .	max. 0,5 ppb
iron (Fe) . . . . .	max. 1 ppb	ytterbium (Yb) . . . . .	max. 0,1 ppb
lanthanum (La) . . . . .	max. 0,1 ppb	yttrium (Y) . . . . .	max. 0,1 ppb
lead (Pb) . . . . .	max. 0,1 ppb	zinc (Zn) . . . . .	max. 1 ppb
lithium (Li) . . . . .	max. 0,1 ppb	zirconium (Zr) . . . . .	max. 0,1 ppb
lutetium (Lu) . . . . .	max. 0,1 ppb		

ART. NO.	VOLUME	CONTAINER
AC07800500	500 ml	0
AC07801000	1 l	0
AC07802500	2,5 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**HYDROCHLORIC ACID, 35%**

- Synonyms: Hydrogen chloride solution, Muriatic acid
- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: ~ 1,19 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -28 °C
- Boiling point: ~ 50 °C
- Vapour pressure: (20 °C) ~ 190 hPa
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Danger
- GHS-H sentences: H314 - H335
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2806 10 00 00
- Applications: laboratory reagent, acidifying agent, in the production of chlorides, synthesis of organic products.

**AC0737 Hydrochloric acid, solution 35% w/w, EssentQ®**



assay (acidimetric) . . . . . min. 35 %	lead (Pb) . . . . . max. 0,005 %
sulfates (SO <sub>4</sub> ) . . . . . max. 0,005 %	residue on evaporation . . . . . max. 0,05 %
ammonium (NH <sub>4</sub> ) . . . . . max. 0,005 %	
arsenic (As) . . . . . max. 3 ppm	
iron (Fe) . . . . . max. 0,005 %	

ART. NO.	VOLUME	CONTAINER
AC07371000	1 l	0
AC0737005P	5 l	P
AC0737025P	25 l	P

**AC0756 Hydrochloric acid, solution min. 35% w/w, extra pure, Pharpur®, Ph Eur**



assay (acidimetric) . . . . . 35,0 - 39,0 %	Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.
identification . . . . . passes test	Residual solvents are analysed according to guideline CPMP/ICH/283/95.
appearance of solution . . . . . clear and colourless	
free chlorine (as Cl) . . . . . max. 4 ppm	
sulfates (SO <sub>4</sub> ) . . . . . max. 20 ppm	
residue on evaporation . . . . . max. 0,01 %	

ART. NO.	VOLUME	CONTAINER
AC07561000	1 l	0
AC07562500	2,5 l	0
AC0756005P	5 l	P
AC0756025P	25 l	P

**AC0781 Hydrochloric acid, 35%, Ultratrace®, ppt-trace analysis grade**



assay (acidimetric) . . . . . 32 - 35 %	mercury (Hg) . . . . . max. 50 ppt
aluminium (Al) . . . . . max. 20 ppt	molybdenum (Mo) . . . . . max. 10 ppt
antimony (Sb) . . . . . max. 20 ppt	neodymium (Nd) . . . . . max. 1 ppt
arsenic (As) . . . . . max. 50 ppt	nickel (Ni) . . . . . max. 20 ppt
barium (Ba) . . . . . max. 10 ppt	niobium (Nb) . . . . . max. 1 ppt
beryllium (Be) . . . . . max. 10 ppt	potassium (K) . . . . . max. 10 ppt
bismuth (Bi) . . . . . max. 10 ppt	praseodymium (Pr) . . . . . max. 1 ppt
boron (B) . . . . . max. 100 ppt	rhenium (Re) . . . . . max. 10 ppt
cadmium (Cd) . . . . . max. 10 ppt	rhodium (Rh) . . . . . max. 10 ppt
calcium (Ca) . . . . . max. 10 ppt	rubidium (Rb) . . . . . max. 10 ppt
cerium (Ce) . . . . . max. 10 ppt	ruthenium (Ru) . . . . . max. 10 ppt
cesium (Cs) . . . . . max. 10 ppt	samarium (Sm) . . . . . max. 1 ppt
chromium (Cr) . . . . . max. 10 ppt	scandium (Sc) . . . . . max. 10 ppt
cobalt (Co) . . . . . max. 10 ppt	silver (Ag) . . . . . max. 10 ppt
copper (Cu) . . . . . max. 10 ppt	sodium (Na) . . . . . max. 10 ppt
dysprosium (Dy) . . . . . max. 1 ppt	strontium (Sr) . . . . . max. 10 ppt
erbium (Er) . . . . . max. 1 ppt	tellurium (Te) . . . . . max. 1 ppt
europium (Eu) . . . . . max. 1 ppt	terbium (Tb) . . . . . max. 1 ppt
gadolinium (Gd) . . . . . max. 1 ppt	thallium (Tl) . . . . . max. 10 ppt
gallium (Ga) . . . . . max. 10 ppt	thorium (Th) . . . . . max. 1 ppt
gold (Au) . . . . . max. 50 ppt	thulium (Tm) . . . . . max. 1 ppt
hafnium (Hf) . . . . . max. 10 ppt	tin (Sn) . . . . . max. 20 ppt
holmium (Ho) . . . . . max. 1 ppt	titanium (Ti) . . . . . max. 10 ppt
indium (In) . . . . . max. 1 ppt	tungsten (W) . . . . . max. 10 ppt
iron (Fe) . . . . . max. 10 ppt	uranium (U) . . . . . max. 1 ppt
lanthanum (La) . . . . . max. 1 ppt	vanadium (V) . . . . . max. 10 ppt
lead (Pb) . . . . . max. 10 ppt	ytterbium (Yb) . . . . . max. 1 ppt
lithium (Li) . . . . . max. 10 ppt	yttrium (Y) . . . . . max. 1 ppt
lutetium (Lu) . . . . . max. 10 ppt	zinc (Zn) . . . . . max. 10 ppt
magnesium (Mg) . . . . . max. 10 ppt	zirconium (Zr) . . . . . max. 10 ppt
manganese (Mn) . . . . . max. 10 ppt	

ART. NO.	VOLUME	CONTAINER
AC07810250	250 ml	0
AC07810500	500 ml	0
AC07811000	1 l	0



## HYDROCHLORIC ACID, 32%

AC0739 Hydrochloric acid, solution 32% w/w, ExpertQ®, for analysis, ISO



- Synonyms: Hydrogen chloride solution
- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: 1,15 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -40 °C
- Boiling point: 84 °C
- Vapour pressure: (20 °C) 21,3 hPa
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Danger
- GHS-H sentences: H314 - H335
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2806 10 00 00
- Applications: laboratory reagent, acidifying agent, in the production of chlorides, synthesis of organic products.

assay (acidimetric) . . . . . min. 32 %  
 colour (Hazen) . . . . . max. 10  
 bromides (Br) . . . . . max. 0,005 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
 sulfites (SO<sub>3</sub>) . . . . . max. 0,0001 %  
 free chlorine (as Cl) . . . . . max. 0,00005 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,0001 %  
 arsenic (As) . . . . . max. 0,01 ppm  
 barium (Ba) . . . . . max. 0,02 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,2 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,01 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 gallium (Ga) . . . . . max. 0,05 ppm  
 germanium (Ge) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max. 0,05 ppm  
 heavy metals (as Pb) . . . . . max. 0,0001 %  
 indium (In) . . . . . max. 0,05 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,01 ppm

lithium (Li) . . . . . max. 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,05 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm  
 mercury (Hg) . . . . . max. 0,01 ppm  
 molybdenum (Mo) . . . . . max. 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,1 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,05 ppm  
 sodium (Na) . . . . . max. 0,2 ppm  
 strontium (Sr) . . . . . max. 0,01 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,01 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 residue on ignition . . . . . max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC07391000	1 l	0
AC07392500	2,5 l	0
AC0739005P	5 l	0
AC0739025P	25 l	0

## HYDROCHLORIC ACID, 30%

AC0782 Hydrochloric acid, 30%, Ultratrace®, ppb-trace analysis grade



- HCl
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: ~ 1,15 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -50 °C
- Boiling point: 90 °C

- Vapour pressure: (20 °C) 21,8 hPa
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Danger
- GHS-H sentences: H314 - H335

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P310 - P405 - P501a
- Tariff number: 2806 10 00 00

ART. NO.	VOLUME	CONTAINER
AC07821000	1 l	0

## HYDROCHLORIC ACID, 25%

AC0767 Hydrochloric acid, solution 25% w/w, ExpertQ®, for analysis, ISO



- Synonyms: Hydrogen chloride solution
- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: ~ 1,12 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -70 °C
- Boiling point: 107 °C
- Vapour pressure: (20 °C) 12 hPa
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Danger
- GHS-H sentences: H314 - H335
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2806 10 00 00
- Applications: laboratory reagent, acidifying agent, in the production of chlorides, synthesis of organic products.

assay (acidimetric) . . . . . min. 25 %  
 colour (Hazen) . . . . . max. 10  
 free chlorine (as Cl) . . . . . max. 0,00005 %  
 bromides (Br) . . . . . max. 0,005 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
 sulfites (SO<sub>3</sub>) . . . . . max. 0,0001 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,0001 %  
 arsenic (As) . . . . . max. 0,01 ppm  
 barium (Ba) . . . . . max. 0,02 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,01 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 germanium (Ge) . . . . . max. 0,05 ppm  
 heavy metals (as Pb) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 0,2 ppm  
 lead (Pb) . . . . . max. 0,02 ppm  
 lithium (Li) . . . . . max. 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm

manganese (Mn) . . . . . max. 0,01 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max. 0,01 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,1 ppm  
 vanadium (V) . . . . . max. 0,01 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 zirconium (Zr) . . . . . max. 0,1 ppm  
 residue on ignition . . . . . max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC07671000	1 l	0
AC07672500	2,5 l	0
AC0767005P	5 l	0
AC0767025P	25 l	0

## HYDROCHLORIC ACID-WATER, SOLUTION 50:50 V/V

AC0760 Hydrochloric acid-water, solution 50:50 v/v, ExpertQ®, for analysis



- Synonyms: Hydrogen chloride - water solution
- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: 1,10 g/cm<sup>3</sup>
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789

- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2806 10 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, for the analysis of: fats.

hydrochloric acid 37 % ..... 50 ml  
 water ..... 50 ml  
 residue on evaporation ..... max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AC07601000	1 l	

## HYDROCHLORIC ACID, VOLUMETRIC SOLUTIONS

AC0752 Hydrochloric acid, solution 6 mol/l (6 N)



- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: 1,098 g/cm<sup>3</sup>
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2806 10 00 00

- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, for the analysis of: fats.

factor ..... 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,21876 g HCl  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC07521000	1 l	

AC0749 Hydrochloric acid, solution 5 mol/l (5 N)



- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: 1,08 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2806 10 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, for the analysis of: fats.

factor ..... 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,18235 g HCl  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).




ART. NO.	VOLUME	CONTAINER
AC07491000	1 l	

AC0738 Hydrochloric acid, solution 3 mol/l (3 N)



- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: ~ 1,06 g/cm<sup>3</sup>
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2806 10 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, for the analysis of: fats.



factor ..... 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,10938 g HCl  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC07381000	1 l	
AC07382500	2,5 l	
AC0738010C	10 l	

AC0748 Hydrochloric acid, solution 2 mol/l (2 N) 

- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: ~ 1,03 g/cm<sup>3</sup>
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Warning
- GHS-H sentences: H290 - H315 - H319 - H335 -
- GHS-P sentences: P302 + P352 - P305 + P351 + P338
- Tariff number: 2806 10 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.





factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,07292 g HCl  
This volumetric solution was checked by means of potentiometric methods using Scharlau's tris (hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC07481000	1 l	
AC0748010C	10 l	

AC0744 Hydrochloric acid, solution 1 mol/l (1 N) 

- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: 1,01 g/cm<sup>3</sup>
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 III UN 1789
- IMDG: 8 III UN 1789
- IATA/ICAO: 8 III UN 1789
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P310 - P405 - P501a
- Tariff number: 2806 10 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.




factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,03646 g HCl  
This volumetric solution was checked by means of potentiometric methods using Scharlau's tris (hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC07441000	1 l	
AC0744005P	5 l	
AC0744010C	10 l	
AC0744025P	25 l	

AC0745 Hydrochloric acid, solution 0,5 mol/l (0,5 N) 

- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: 1,01 g/cm<sup>3</sup>
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 III UN 1789
- IMDG: 8 III UN 1789
- IATA/ICAO: 8 III UN 1789
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P310 - P405 - P501a -
- Tariff number: 2806 10 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,018235 g HCl  
This volumetric solution was checked by means of potentiometric methods using Scharlau's tris (hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC07451000	1 l	
AC0745005P	5 l	
AC0745010C	10 l	

AC0769 Hydrochloric acid, solution 0,31 mol/l (0,31 N) 




- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: 1,01 g/cm<sup>3</sup>
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 III UN 1789
- IMDG: 8 III UN 1789
- IATA/ICAO: 8 III UN 1789
- GHS-signal word: Warning
- GHS-H sentences: H290
- Tariff number: 2806 10 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
1 ml = 0,011303 g HCl  
This volumetric solution was checked by means of potentiometric methods using Scharlau's tris (hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC0769005P	5 l	

### AC0755 Hydrochloric acid, solution 0,25 mol/l (0,25 N)

- HCl factor . . . . . 0,999 - 1,001
- M = 36,46 g/mol uncertainty ± 0,001
- CAS [7647-01-0] 1 ml = 0,009115 g HCl
- EINECS-No.: 231-595-7 This volumetric solution was checked by means of
- Density: 1,00 g/cm<sup>3</sup> potentiometric methods using Scharlau's tris
- EC-Index-No.: 017-002-01-X (hydroxymethyl)- aminomethane volumetric standard.
- Tariff number: 2806 10 00 00 Scharlau's volumetric standards are directly traceable
- Applications: analytical chemistry, laboratory reagent, to the Standard Reference Materials from NIST
- titrant in volumetric analysis. (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC07551000	1 l	
AC0755005P	5 l	
AC0755010C	10 l	




### AC0740 Hydrochloric acid, solution 0,2 mol/l (0,2 N)

- HCl factor . . . . . 0,999 - 1,001
- M = 36,46 g/mol uncertainty ± 0,001
- CAS [7647-01-0] 1 ml = 0,007292 g HCl
- EINECS-No.: 231-595-7 This volumetric solution was checked by means of
- Density: ~ 1,01 g/cm<sup>3</sup> potentiometric methods using Scharlau's tris
- EC-Index-No.: 017-002-01-X (hydroxymethyl)- aminomethane volumetric standard.
- Tariff number: 2806 10 00 00 Scharlau's volumetric standards are directly traceable
- Applications: analytical chemistry, laboratory reagent. to the Standard Reference Materials from NIST
- (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC07401000	1 l	

### AC0746 Hydrochloric acid, solution 0,1 mol/l (0,1 N)

- HCl factor . . . . . 0,999 - 1,001
- M = 36,46 g/mol uncertainty ± 0,001
- CAS [7647-01-0] 1 ml = 0,003646 g HCl
- EINECS-No.: 231-595-7 This volumetric solution was checked by means of
- Density: 1,00 g/cm<sup>3</sup> potentiometric methods using Scharlau's tris
- EC-Index-No.: 017-002-01-X (hydroxymethyl)- aminomethane volumetric standard.
- Tariff number: 2806 10 00 00 Scharlau's volumetric standards are directly traceable
- Applications: analytical chemistry, laboratory reagent. to the Standard Reference Materials from NIST
- (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC07461000	1 l	
AC0746005P	5 l	
AC0746010C	10 l	

### AC0754 Hydrochloric acid, solution 0,05 mol/l (0,05 N)

- HCl factor . . . . . 0,999 - 1,001
- M = 36,46 g/mol uncertainty ± 0,001
- CAS [7647-01-0] 1 ml = 0,0018235 g HCl
- EINECS-No.: 231-595-7 This volumetric solution was checked by means of
- Density: 0,996 g/cm<sup>3</sup> potentiometric methods using Scharlau's tris
- EC-Index-No.: 017-002-01-X (hydroxymethyl)- aminomethane volumetric standard.
- Tariff number: 2806 10 00 00 Scharlau's volumetric standards are directly traceable
- Applications: analytical chemistry, laboratory reagent, to the Standard Reference Materials from NIST
- titrant in volumetric analysis. (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC07541000	1 l	

### AC0757 Hydrochloric acid, solution 0,01 mol/l (0,01 N)

- HCl factor . . . . . 0,999 - 1,001
- M = 36,46 g/mol uncertainty ± 0,001
- CAS [7647-01-0] 1 ml = 0,0003646 g HCl
- EINECS-No.: 231-595-7 This volumetric solution was checked by means of
- Density: 0,994 g/cm<sup>3</sup> potentiometric methods using Scharlau's tris
- EC-Index-No.: 017-002-01-X (hydroxymethyl)- aminomethane volumetric standard.
- Tariff number: 2806 10 00 00 Scharlau's volumetric standards are directly traceable
- Applications: analytical chemistry, laboratory reagent, to the Standard Reference Materials from NIST
- titrant in volumetric analysis. (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC07571000	1 l	

### AC0743 Hydrochloric acid, concentrated solution to prepare 1 l of solution 1 mol/l (1 N)



- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: ~ 1,09 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 017-002-01-X
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Danger
- GHS-H sentences: H314 - H335
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2806 10 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

amount of substance: 36,460 g HCl  
concentrated solution . . . . . 5 mol/l ± 0,1%

ART. NO.	VOLUME	CONTAINER
AC074300PA	u.	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**AC0759 Hydrochloric acid, concentrated solution to prepare 1 l of solution 0,5 mol/l (0,5 N)**



- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: 1,08 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789

- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2806 10 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

amount of substance: 18,230 g HCl  
concentrated solution . . . . . 5 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
AC075900PA	u.	Ø

**AC0742 Hydrochloric acid, concentrated solution to prepare 1 l of solution 0,1 mol/l (0,1 N)**

- HCl
- M = 36,46 g/mol
- CAS [7647-01-0]
- EINECS-No.: 231-595-7
- Density: ~ 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible

- EC-Index-No.: 017-002-01-X
- Tariff number: 2806 10 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

amount of substance: 3,646 g HCl  
concentrated solution . . . . . 1 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
AC074200PA	u.	Ø

## HYDROFLUORIC ACID, 48%

- HF
- M = 20,00 g/mol
- CAS [7664-39-3]
- EINECS-No.: 231-634-8
- Density: 1,16 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -35 °C

- Boiling point: ~ 106 °C
- EC-Index-No.: 009-002-00-6
- ADR: 8 CT1 II UN 1790
- IMDG: 8 II UN 1790
- IATA/ICAO: 8 II UN 1790
- GHS-signal word: Danger
- GHS-H sentences: H310 - H330 - H314

- GHS-P sentences: P303 + P361 + P533 - P305 + P351 + P338 - P320 - P361 - P405 - P501a
- Tariff number: 2811 11 00 00
- Applications: analytical chemistry, acidifying agent, dissolution agent for silicates.

**AC1059 Hydrofluoric acid, solution 48% w/w, EssentQ®**



assay (acidimetric) . . . . . min. 48 %  
chlorides (Cl) . . . . . max. 0,002 %  
hexafluorosilicate (SiF<sub>6</sub>) . . . . . max. 0,01 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %

sulfites (SO<sub>3</sub>) . . . . . max. 0,002 %  
heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 1 ppm  
residue on ignition (as SO<sub>x</sub>) . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
AC10591000	1 l	Ø
AC10592500	2,5 l	Ø

**AC1060 Hydrofluoric acid, solution 48% w/w, ExpertQ®, for analysis, ACS, ISO**



assay (acidimetric) . . . . . 48,0 - 51,0 %  
colour (Hazen) . . . . . max. 10  
hexafluorosilicic acid (H<sub>2</sub>SiF<sub>6</sub>) . . . . . max. 0,005 %  
chlorides (Cl) . . . . . max. 0,0001 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,00001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
sulfites (SO<sub>3</sub>) . . . . . max. 0,0002 %  
aluminium (Al) . . . . . max. 0,05 ppm  
arsenic (As) . . . . . max. 0,05 ppm  
barium (Ba) . . . . . max. 0,01 ppm  
beryllium (Be) . . . . . max. 0,02 ppm  
bismuth (Bi) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,01 ppm  
calcium (Ca) . . . . . max. 0,2 ppm  
chromium (Cr) . . . . . max. 0,01 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
germanium (Ge) . . . . . max. 0,02 ppm

heavy metals (as Pb) . . . . . max. 0,5 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,02 ppm  
lithium (Li) . . . . . max. 0,01 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,03 ppm  
molybdenum (Mo) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
potassium (K) . . . . . max. 0,1 ppm  
silver (Ag) . . . . . max. 0,02 ppm  
sodium (Na) . . . . . max. 0,2 ppm  
strontium (Sr) . . . . . max. 0,02 ppm  
thallium (Tl) . . . . . max. 0,02 ppm  
titanium (Ti) . . . . . max. 0,02 ppm  
vanadium (V) . . . . . max. 0,02 ppm  
zinc (Zn) . . . . . max. 0,05 ppm  
zirconium (Zr) . . . . . max. 0,02 ppm  
residue on ignition . . . . . max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC10601000	1 l	Ø
AC10602500	2,5 l	Ø
AC1060005P	5 l	Ø
AC1060025P	25 l	Ø

AC1061 Hydrofluoric acid, 48%, Ultratrace®, ppb-trace analysis grade



assay (acidimetric) . . . . .	47 - 51 %
colour (Hazen) . . . . .	max. 10
chlorides (Cl) . . . . .	max. 0,0004 %
hexafluorosilicic acid (H <sub>2</sub> SiF <sub>6</sub> ) . . . . .	max. 0,002 %
total phosphorus (P) . . . . .	max. 0,000005 %
total sulfur (S) . . . . .	max. 0,00001 %
aluminium (Al) . . . . .	max. 1 ppb
antimony (Sb) . . . . .	max. 0,2 ppb
arsenic (As) . . . . .	max. 0,5 ppb
barium (Ba) . . . . .	max. 0,1 ppb
beryllium (Be) . . . . .	max. 0,1 ppb
bismuth (Bi) . . . . .	max. 0,1 ppb
boron (B) . . . . .	max. 1 ppb
cadmium (Cd) . . . . .	max. 0,1 ppb
calcium (Ca) . . . . .	max. 1 ppb
cerium (Ce) . . . . .	max. 0,1 ppb
cesium (Cs) . . . . .	max. 0,1 ppb
chromium (Cr) . . . . .	max. 1 ppb
cobalt (Co) . . . . .	max. 0,1 ppb
copper (Cu) . . . . .	max. 0,5 ppb
dysprosium (Dy) . . . . .	max. 0,1 ppb
erbium (Er) . . . . .	max. 0,1 ppb
europium (Eu) . . . . .	max. 0,1 ppb
gadolinium (Gd) . . . . .	max. 0,1 ppb
gallium (Ga) . . . . .	max. 0,1 ppb
germanium (Ge) . . . . .	max. 0,1 ppb
gold (Au) . . . . .	max. 0,2 ppb
hafnium (Hf) . . . . .	max. 0,1 ppb
holmium (Ho) . . . . .	max. 0,1 ppb
indium (In) . . . . .	max. 0,1 ppb
iron (Fe) . . . . .	max. 1 ppb
lanthanum (La) . . . . .	max. 0,1 ppb
lead (Pb) . . . . .	max. 0,1 ppb
lithium (Li) . . . . .	max. 0,1 ppb
lutetium (Lu) . . . . .	max. 0,1 ppb
magnesium (Mg) . . . . .	max. 1 ppb

manganese (Mn) . . . . .	max. 0,1 ppb
mercury (Hg) . . . . .	max. 1 ppb
molybdenum (Mo) . . . . .	max. 0,1 ppb
neodymium (Nd) . . . . .	max. 0,1 ppb
nickel (Ni) . . . . .	max. 0,5 ppb
niobium (Nb) . . . . .	max. 0,1 ppb
palladium (Pd) . . . . .	max. 0,2 ppb
platinum (Pt) . . . . .	max. 0,2 ppb
potassium (K) . . . . .	max. 1 ppb
praseodymium (Pr) . . . . .	max. 0,1 ppb
rhenium (Re) . . . . .	max. 0,1 ppb
rhodium (Rh) . . . . .	max. 0,1 ppb
rubidium (Rb) . . . . .	max. 0,1 ppb
ruthenium (Ru) . . . . .	max. 0,1 ppb
samarium (Sm) . . . . .	max. 0,1 ppb
scandium (Sc) . . . . .	max. 0,1 ppb
selenium (Se) . . . . .	max. 1 ppb
silver (Ag) . . . . .	max. 0,5 ppb
sodium (Na) . . . . .	max. 1 ppb
strontium (Sr) . . . . .	max. 0,1 ppb
tantalum (Ta) . . . . .	max. 0,1 ppb
tellurium (Te) . . . . .	max. 0,1 ppb
terbium (Tb) . . . . .	max. 0,1 ppb
thallium (Tl) . . . . .	max. 0,1 ppb
thorium (Th) . . . . .	max. 0,1 ppb
thulium (Tm) . . . . .	max. 0,1 ppb
tin (Sn) . . . . .	max. 0,5 ppb
titanium (Ti) . . . . .	max. 1 ppb
tungsten (W) . . . . .	max. 0,5 ppb
uranium (U) . . . . .	max. 0,1 ppb
vanadium (V) . . . . .	max. 0,1 ppb
ytterbium (Yb) . . . . .	max. 0,1 ppb
yttrium (Y) . . . . .	max. 0,1 ppb
zinc (Zn) . . . . .	max. 1 ppb
zirconium (Zr) . . . . .	max. 0,1 ppb

ART. NO.	VOLUME	CONTAINER
AC10610500	500 ml	

AC1062 Hydrofluoric acid, 48%, Ultratrace®, ppt-trace analysis grade



assay (acidimetric) . . . . .	47 - 51 %
total sulfur (S) . . . . .	max. 0,00001 %
aluminium (Al) . . . . .	max. 20 ppt
antimony (Sb) . . . . .	max. 20 ppt
arsenic (As) . . . . .	max. 50 ppt
barium (Ba) . . . . .	max. 10 ppt
beryllium (Be) . . . . .	max. 10 ppt
bismuth (Bi) . . . . .	max. 10 ppt
boron (B) . . . . .	max. 100 ppt
cadmium (Cd) . . . . .	max. 10 ppt
calcium (Ca) . . . . .	max. 10 ppt
cerium (Ce) . . . . .	max. 10 ppt
cesium (Cs) . . . . .	max. 10 ppt
chromium (Cr) . . . . .	max. 10 ppt
cobalt (Co) . . . . .	max. 10 ppt
copper (Cu) . . . . .	max. 10 ppt
dysprosium (Dy) . . . . .	max. 1 ppt
erbium (Er) . . . . .	max. 1 ppt
europium (Eu) . . . . .	max. 1 ppt
gadolinium (Gd) . . . . .	max. 1 ppt
gallium (Ga) . . . . .	max. 10 ppt
germanium (Ge) . . . . .	max. 10 ppt
gold (Au) . . . . .	max. 20 ppt
hafnium (Hf) . . . . .	max. 10 ppt
holmium (Ho) . . . . .	max. 1 ppt
indium (In) . . . . .	max. 1 ppt
iron (Fe) . . . . .	max. 10 ppt
lanthanum (La) . . . . .	max. 10 ppt
lead (Pb) . . . . .	max. 10 ppt
lithium (Li) . . . . .	max. 10 ppt
lutetium (Lu) . . . . .	max. 1 ppt
magnesium (Mg) . . . . .	max. 10 ppt
manganese (Mn) . . . . .	max. 10 ppt

mercury (Hg) . . . . .	max. 50 ppt
molybdenum (Mo) . . . . .	max. 10 ppt
neodymium (Nd) . . . . .	max. 1 ppt
nickel (Ni) . . . . .	max. 20 ppt
niobium (Nb) . . . . .	max. 10 ppt
palladium (Pd) . . . . .	max. 20 ppt
platinum (Pt) . . . . .	max. 20 ppt
potassium (K) . . . . .	max. 10 ppt
praseodymium (Pr) . . . . .	max. 1 ppt
rhenium (Re) . . . . .	max. 10 ppt
rhodium (Rh) . . . . .	max. 20 ppt
rubidium (Rb) . . . . .	max. 20 ppt
ruthenium (Ru) . . . . .	max. 20 ppt
samarium (Sm) . . . . .	max. 1 ppt
scandium (Sc) . . . . .	max. 10 ppt
silver (Ag) . . . . .	max. 10 ppt
sodium (Na) . . . . .	max. 10 ppt
strontium (Sr) . . . . .	max. 10 ppt
tellurium (Te) . . . . .	max. 1 ppt
terbium (Tb) . . . . .	max. 1 ppt
thallium (Tl) . . . . .	max. 10 ppt
thorium (Th) . . . . .	max. 1 ppt
thulium (Tm) . . . . .	max. 1 ppt
tin (Sn) . . . . .	max. 20 ppt
titanium (Ti) . . . . .	max. 20 ppt
tungsten (W) . . . . .	max. 20 ppt
uranium (U) . . . . .	max. 1 ppt
vanadium (V) . . . . .	max. 10 ppt
ytterbium (Yb) . . . . .	max. 1 ppt
yttrium (Y) . . . . .	max. 1 ppt
zinc (Zn) . . . . .	max. 10 ppt
zirconium (Zr) . . . . .	max. 10 ppt

ART. NO.	VOLUME	CONTAINER
AC10620250	250 ml	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z



## HYDROFLUORIC ACID, 40%

AC1051 Hydrofluoric acid, solution 40% w/w, ExpertQ®, for analysis, ISO



- HF
- M = 20,01 g/mol
- CAS [7664-39-3]
- EINECS-No.: 231-634-8
- Density: 1,13 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -44 °C
- Boiling point: ~ 112 °C
- EC-Index-No.: 009-002-00-6
- ADR: 8 CT1 II UN 1790
- IMDG: 8 II UN 1790
- IATA/ICAO: 8 II UN 1790
- GHS-signal word: Danger
- GHS-H sentences: H310 - H330 - H314
- GHS-P sentences: P303 + P361 + P353 - P305 + P351 + P338 - P320 - P361 - P405 - P501a
- Tariff number: 2811 11 00 00
- Applications: analytical chemistry, acidifying agent, dissolution agent for silicates.

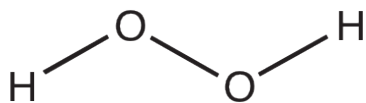
assay (acidimetric) . . . . . min. 40 %  
 colour (Hazen) . . . . . max.10  
 hexafluorosilicic acid (H<sub>2</sub>SiF<sub>6</sub>) . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,0001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0002 %  
 sulfites (SO<sub>3</sub>) . . . . . max. 0,0002 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 arsenic (As) . . . . . max. 0,05 ppm  
 barium (Ba) . . . . . max. 0,05 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,2 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 germanium (Ge) . . . . . max. 0,02 ppm  
 heavy metals (as Pb) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,02 ppm

lithium (Li) . . . . . max. 0,02 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,03 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 sodium (Na) . . . . . max. 0,2 ppm  
 strontium (Sr) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 residue on ignition . . . . . max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC10511000	1 l	Ⓟ
AC10512500	2,5 l	Ⓟ
AC1051005P	5 l	Ⓟ

## HYDROGEN PEROXIDE, 50%

HI0139 Hydrogen peroxide, solution 50% w/w (200 vol), EssentQ®

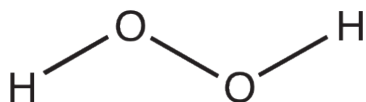


- Synonyms: Hydrogen dioxide, Hydroperoxide
- H<sub>2</sub>O<sub>2</sub>
- M = 34,01 g/mol
- CAS [7722-84-1]
- EINECS-No.: 231-765-0
- Density: 1,20 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: - 52 °C
- Boiling point: 114 °C
- Vapour pressure: (30 °C) 240 hPa
- LD 50 (oral, rat): 1518 mg/kg
- EC-Index-No.: 008-003-00-9
- ADR: 5.1 OC1 II UN 2014
- IMDG: 5.1 II UN 2014
- IATA/ICAO: Forbidden UN 2014
- GHS-signal word: Danger
- GHS-H sentences: H272 - H314 - H302 - H335 -
- GHS-P sentences: P221 - P210 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2847 00 00 00
- Applications: oxidizing agent, bleaching agent, for pharmaceutical use, in the pharmaceuticals industry.

assay (permanganometric) . . . . . approx. 50 %  
 acidity (as H<sub>2</sub>SO<sub>4</sub>) . . . . . max. 0,05 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 0,5 ppm  
 copper (Cu) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 0,001 %  
 residue on evaporation . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
HI01391000	1 l	Ⓟ
HI01392500	2,5 l	Ⓟ

## HYDROGEN PEROXIDE, 35%



- Synonyms: Hydrogen dioxide, Hydroperoxide
- H<sub>2</sub>O<sub>2</sub>
- M = 34,01 g/mol
- CAS [7722-84-1]
- EINECS-No.: 231-765-0
- Density: 1,13 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -24 °C
- Boiling point: ~ 110 °C
- Vapour pressure: (20 °C) ~ 20 hPa
- LD 50 (oral, rat): 2000 mg/kg (90% solution)

- EC-Index-No.: 008-003-00-9
- ADR: 5.1 OC1 II UN 2014
- IMDG: 5.1 II UN 2014
- IATA/ICAO: 5.1 II UN 2014
- GHS-signal word: Danger
- GHS-H sentences: H318 - H302 - H335 - H315
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2847 00 00 00
- Applications: oxidizing agent, bleaching agent, for pharmaceutical use, in the pharmaceuticals industry.

HI0137 Hydrogen peroxide, solution 35% w/w (133 vol), EssentQ®



assay (permanganometric) . . . . . 34,5 - 36,5 %  
 free acid (as H<sub>2</sub>SO<sub>4</sub>) . . . . . max. 0,02 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %

arsenic (As) . . . . . max. 0,5 ppm  
 copper (Cu) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 nickel (Ni) . . . . . max. 0,001 %  
 residue on evaporation . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
HI01371000	1 l	0
HI0137005P	5 l	1

HI0138 Hydrogen peroxide, solution 35% w/w (133 vol), ExpertQ®, for analysis

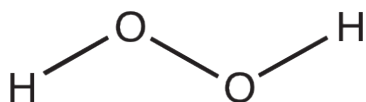


assay (permanganometric) . . . . . min. 34,5 %  
 acidity (as H<sub>2</sub>SO<sub>4</sub>) . . . . . max. 0,02 %  
 chlorides (Cl) . . . . . max. 0,0001 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,0005 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,0005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,001 %

arsenic (As) . . . . . max. 0,5 ppm  
 copper (Cu) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 1 ppm  
 nickel (Ni) . . . . . max. 1 ppm  
 residue on evaporation . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
HI01381000	1 l	0
HI01382500	2,5 l	0

## HYDROGEN PEROXIDE, 30%



- Synonyms: Hydrogen dioxide, Hydroperoxide
- H<sub>2</sub>O<sub>2</sub>
- M = 34,01 g/mol
- CAS [7722-84-1]
- EINECS-No.: 231-765-0
- Density: 1,11 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -26 °C
- Boiling point: 107 °C
- Vapour pressure: (20 °C) ~ 18 hPa
- LD 50 (oral, rat): 2000 mg/kg (90% solution)

- EC-Index-No.: 008-003-00-9
- ADR: 5.1 OC1 II UN 2014
- IMDG: 5.1 II UN 2014
- IATA/ICAO: 5.1 II UN 2014
- GHS-signal word: Danger
- GHS-H sentences: H318 - H302
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P330 - P501a
- Tariff number: 2847 00 00 00
- Applications: analytical chemistry, oxidizing agent, bleaching agent, for pharmaceutical use.

HI0135 Hydrogen peroxide, solution 30% w/w (110 vol), EssentQ®



assay (permanganometric) . . . . . approx. 30 %  
 acidity (as H<sub>2</sub>SO<sub>4</sub>) . . . . . max. 0,025 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 0,5 ppm

copper (Cu) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 nickel (Ni) . . . . . max. 0,001 %  
 residue on evaporation . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
HI01350500	500 ml	0
HI01351000	1 l	0
HI01352500	2,5 l	0
HI0135005P	5 l	1

HI0136 Hydrogen peroxide, solution 30% w/w (110 vol), ExpertQ®, for analysis, ACS, ISO



assay (permanganometric) . . . . . 30,0 - 32,0 %  
 colour (Hazen) . . . . . max. 10  
 free acid (as H<sub>2</sub>SO<sub>4</sub>) . . . . . max. 0,004 %  
 chlorides (Cl) . . . . . max. 0,00005 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,0002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,0001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
 total nitrogen (as N) . . . . . max. 0,0004 %  
 aluminium (Al) . . . . . max. 0,5 ppm  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,0005 %  
 arsenic (As) . . . . . max. 0,01 ppm  
 barium (Ba) . . . . . max. 0,05 ppm  
 beryllium (Be) . . . . . max. 0,01 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,2 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,01 ppm  
 copper (Cu) . . . . . max. 0,01 ppm

germanium (Ge) . . . . . max. 0,05 ppm  
 heavy metals (as Pb) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 0,05 ppm  
 lead (Pb) . . . . . max. 0,01 ppm  
 lithium (Li) . . . . . max. 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,05 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 sodium (Na) . . . . . max. 0,1 ppm  
 strontium (Sr) . . . . . max. 0,01 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,1 ppm  
 vanadium (V) . . . . . max. 0,01 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 zirconium (Zr) . . . . . max. 0,1 ppm  
 residue on ignition . . . . . max. 0,002 %  
 residue on evaporation . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
HI01361000	1 l	0
HI01362500	2,5 l	0
HI0136005P	5 l	1

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## HI0143 Hydrogen peroxide, solution 30% w/w (110 vol), Ultratrace®, ppt-trace analysis grade



assay (permanganometric) . . . . .	30,0 - 32,0 %	molybdenum (Mo) . . . . .	max. 10 ppt
aluminium (Al) . . . . .	max. 50 ppt	neodymium (Nd) . . . . .	max. 1 ppt
antimony (Sb) . . . . .	max. 10 ppt	nickel (Ni) . . . . .	max. 20 ppt
arsenic (As) . . . . .	max. 100 ppt	niobium (Nb) . . . . .	max. 10 ppt
barium (Ba) . . . . .	max. 10 ppt	palladium (Pd) . . . . .	max. 10 ppt
beryllium (Be) . . . . .	max. 10 ppt	potassium (K) . . . . .	max. 20 ppt
bismuth (Bi) . . . . .	max. 10 ppt	praseodymium (Pr) . . . . .	max. 1 ppt
boron (B) . . . . .	max. 100 ppt	rhenium (Re) . . . . .	max. 10 ppt
cadmium (Cd) . . . . .	max. 10 ppt	rhodium (Rh) . . . . .	max. 10 ppt
calcium (Ca) . . . . .	max. 100 ppt	rubidium (Rb) . . . . .	max. 10 ppt
cerium (Ce) . . . . .	max. 1 ppt	ruthenium (Ru) . . . . .	max. 10 ppt
cesium (Cs) . . . . .	max. 1 ppt	samarium (Sm) . . . . .	max. 1 ppt
chromium (Cr) . . . . .	max. 10 ppt	scandium (Sc) . . . . .	max. 10 ppt
cobalt (Co) . . . . .	max. 10 ppt	selenium (Se) . . . . .	max. 100 ppt
copper (Cu) . . . . .	max. 10 ppt	silver (Ag) . . . . .	max. 10 ppt
dysprosium (Dy) . . . . .	max. 1 ppt	sodium (Na) . . . . .	max. 50 ppt
erbium (Er) . . . . .	max. 1 ppt	strontium (Sr) . . . . .	max. 10 ppt
europium (Eu) . . . . .	max. 1 ppt	tantalum (Ta) . . . . .	max. 10 ppt
gadolinium (Gd) . . . . .	max. 1 ppt	tellurium (Te) . . . . .	max. 1 ppt
gallium (Ga) . . . . .	max. 10 ppt	terbium (Tb) . . . . .	max. 1 ppt
germanium (Ge) . . . . .	max. 10 ppt	thallium (Tl) . . . . .	max. 1 ppt
gold (Au) . . . . .	max. 10 ppt	thorium (Th) . . . . .	max. 1 ppt
hafnium (Hf) . . . . .	max. 1 ppt	thulium (Tm) . . . . .	max. 1 ppt
holmium (Ho) . . . . .	max. 1 ppt	tin (Sn) . . . . .	max. 50 ppt
indium (In) . . . . .	max. 1 ppt	titanium (Ti) . . . . .	max. 20 ppt
iron (Fe) . . . . .	max. 20 ppt	tungsten (W) . . . . .	max. 20 ppt
lanthanum (La) . . . . .	max. 1 ppt	uranium (U) . . . . .	max. 1 ppt
lead (Pb) . . . . .	max. 10 ppt	vanadium (V) . . . . .	max. 10 ppt
lithium (Li) . . . . .	max. 10 ppt	ytterbium (Yb) . . . . .	max. 1 ppt
lutetium (Lu) . . . . .	max. 1 ppt	yttrium (Y) . . . . .	max. 1 ppt
magnesium (Mg) . . . . .	max. 20 ppt	zinc (Zn) . . . . .	max. 50 ppt
manganese (Mn) . . . . .	max. 10 ppt	zirconium (Zr) . . . . .	max. 10 ppt
mercury (Hg) . . . . .	max. 50 ppt		

ART. NO.	VOLUME	CONTAINER
HI01430500	500 ml	

## HYDROGEN PEROXIDE, 30%, STABILIZED

### HI0144 Hydrogen peroxide solution 30%, stabilized



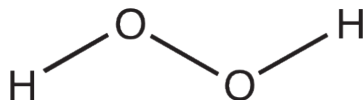
- H<sub>2</sub>O<sub>2</sub>
- CAS [7722-84-1]
- EINECS-No.: 231-765-0
- Density: 1,115
- Solub. in water: (20 °C): miscible
- Melting point: -26 °C
- Boiling point: 106 °C
- Vapour pressure: (20 °C) ~ 23 hPa
- ADR: 5.1 OC1 II UN 2014
- IMDG: 5.1 II UN 2014
- IATA/ICAO: 5.1 II UN 2014
- GHS-signal word: Danger
- GHS-H sentences: H302 + H332 - H318
- GHS-P sentences: P261 - P280 - P301 + P312 - P305 + P351 + P338 - P310 - P501a
- Tariff number: 2847 00 00 00
- Applications: analytical chemistry, oxidizing agent, bleaching agent, for pharmaceutical use.

assay (permanganometric) . . . . . 29,0 - 31,0 %  
density (20°/4°) . . . . . 1,11 - 1,12

ART. NO.	VOLUME	CONTAINER
HI01441000	1 l	
HI01442500	2,5 l	

## HYDROGEN PEROXIDE, 6%, W/V

### HI0132 Hydrogen peroxide, solution 6% w/v (20 vol), EssentQ®



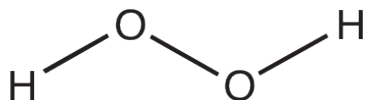
- Synonyms: Hydrogen dioxide, Hydroperoxide
- H<sub>2</sub>O<sub>2</sub>
- M = 34,01 g/mol
- CAS [7722-84-1]
- EINECS-No.: 231-765-0
- Density: 1,016 g/cm<sup>3</sup>
- LD 50 (oral, rat): 2000 mg/kg (90% solution)
- EC-Index-No.: 008-003-00-9
- GHS-signal word: Danger
- GHS-H sentences: H271 - H319
- GHS-P sentences: P221 - P283 - P210 - P305 + P351 + P338 - P306 + P360 - P501a
- Tariff number: 2847 00 00 00
- Applications: oxidizing agent, bleaching agent, for pharmaceutical use, in the pharmaceuticals industry.

assay (permanganometric) . . . . . approx. 6 %  
acidity (as H<sub>2</sub>SO<sub>4</sub>) . . . . . max. 0,05 %  
chlorides (Cl) . . . . . max. 0,001 %  
nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
arsenic (As) . . . . . max. 0,5 ppm  
copper (Cu) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 5 ppm  
lead (Pb) . . . . . max. 0,001 %  
nickel (Ni) . . . . . max. 0,001 %  
residue on evaporation . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
HI01321000	1 l	
HI0132005P	5 l	

## HYDROGEN PEROXIDE, 0,9% W/V

HI0130 Hydrogen peroxide, solution 0,9% w/v (3 vol), for determination of sulfurous gas (SO<sub>2</sub>) according to Paul



- Synonyms: Hydrogen dioxide, Hydroperoxide
- H<sub>2</sub>O<sub>2</sub>
- M = 34,01 g/mol
- CAS [7722-84-1]
- EINECS-No.: 231-765-0
- Density: 1,00 g/cm<sup>3</sup>
- LD 50 (oral, rat): 2000 mg/kg (90% solution)
- EC-Index-No.: 008-003-00-9
- Tariff number: 2847 00 00 00
- Applications: oxidizing agent, bleaching agent, for pharmaceutical use, in the pharmaceuticals industry.

assay (permanganometric) ..... approx. 0,9 %

ART. NO.	VOLUME	CONTAINER
HI01300250	250 ml	0

## HYDROQUINONE

HI0145 Hydroquinone, EssentQ®

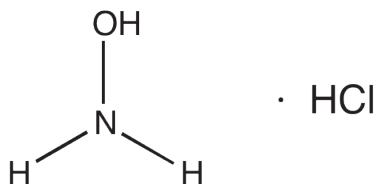


- Synonyms: 1,4-Dihydroxybenzene, p-Dihydroxybenzene, Quinol
- C<sub>6</sub>H<sub>4</sub>O<sub>2</sub>
- M = 110,11 g/mol
- CAS [123-31-9]
- EINECS-No.: 204-617-8
- Solub. in water: (25°C): 70 g/l
- Melting point: ~ 172°C
- Boiling point: 287 °C
- Flash pt. 165 °C
- Ignition temp.: 516 °C
- Vapour pressure: (132 °C) 1,3 hPa
- LD 50 (oral, rat): 320 mg/kg
- EC-Index-No.: 604-005-00-4
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Danger
- GHS-H sentences: H318 - H341 - H351 - H400 - H302 - H317
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2907 22 00 10
- Applications: analytical chemistry, for determination of: phosphates, antioxidant, photography, synthesis of organic products.
- Appearance: White crystalline powder

assay ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
residue on ignition ..... max. 0,05 %  
water (K.F.) ..... max. 0,6 %

ART. NO.	VOLUME	CONTAINER
HI01450100	100 g	0
HI01450500	500 g	0
HI0145005P	5 kg	0

## HYDROXYLAMINE HYDROCHLORIDE



- Synonyms: Hydroxylammonium chloride
- NH<sub>2</sub>OH·HCl
- M = 69,49 g/mol
- CAS [5470-11-1]
- EINECS-No.: 226-798-2
- Solub. in water: (20 °C): 464 g/l
- Melting point: 159 °C
- LD 50 (oral, rat): 141 mg/kg
- EC-Index-No.: 612-123-00-2 [1]
- ADR: 8 C2 III UN 3260
- IMDG: 8 III UN 3260

- IATA/ICAO: 8 III UN 3260
- GHS-signal word: Warning
- GHS-H sentences: H351 - H373 - H290 - H400 - H301 - H312 - H317 - H315 - H319
- GHS-P sentences: P260 - P261 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2825 10 00 10
- Applications: analytical chemistry, strong reducing agent, synthesis of organic products, for the synthesis of: oximes. Separation and identification of: tellurium and selenium, for determination of: gold.

HI0212 Hydroxylamine hydrochloride, EssentQ®

assay (permanganometric) ..... min. 98 %  
identity (IR-spectrum) ..... passes test  
residue on ignition ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
HI02120250	250 g	0
HI02120500	500 g	0

ART. NO.	VOLUME	CONTAINER
HI02121000	1 kg	0

HI0215 Hydroxylamine hydrochloride, ExpertQ®, for analysis, ACS, ISO



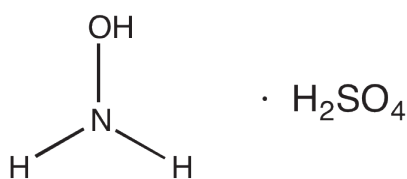
assay (permanganometric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in C<sub>2</sub>H<sub>5</sub>OH . . . . . passes test  
 insoluble in water . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 2,5 - 4,0  
 acidity . . . . . max. 0,25 meq/g  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 ammonium (NH<sub>4</sub>) . . . . . passes test

arsenic (As) . . . . . max. 5 ppm  
 copper (Cu) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,001 %  
 sulphur compounds (as SO<sub>4</sub>) . . . . . max. 0,005 %  
 residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
HI02150250	250 g	
HI02151000	1 kg	
HI0215025P	25 kg	

## HYDROXYLAMMONIUM SULFATE

HI0225 Hydroxylammonium sulfate, EssentQ®



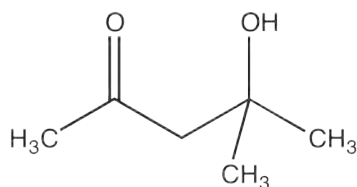
- Synonyms: Hydroxylamine sulfate
- (NH<sub>2</sub>OH)<sub>2</sub>SO<sub>4</sub>
- M = 164,14 g/mol
- CAS [10039-54-0]
- EINECS-No.: 233-118-8
- Solub. in water: (20 °C): 587 g/l
- Melting point: 170 °C (decomposes)
- LD 50 (oral, rat): 937 mg/kg
- EC-Index-No.: 612-123-00-2 [2]
- ADR: 8 C2 III UN 2865
- IMDG: 8 III UN 2865
- IATA/ICAO: 8 III UN 2865
- GHS-signal word: Warning
- GHS-H sentences: H351 - H373 - H290 - H400 - H302 - H312 - H317 - H315 - H319
- GHS-P sentences: P260 - P261 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2825 10 00 00
- Applications: analytical chemistry, reducing agent, for the synthesis of: oximes.

assay (permanganometric) . . . . . min. 99 %  
 residue on ignition (as SO<sub>4</sub>) . . . . . max. 0,05 %  
 water (K.F.) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
HI02250250	250 g	
HI02251000	1 kg	

## 4-HYDROXY-4-METHYL-2-PENTANONE

AL0225 4-Hydroxy-4-methyl-2-pentanone, EssentQ®



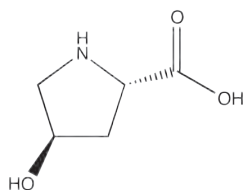
- Synonyms: Diacetone alcohol, 2-Methyl-2-pentanol-4-one
- C<sub>7</sub>H<sub>12</sub>O<sub>2</sub>
- M = 116,16 g/mol
- CAS [123-42-2]
- EINECS-No.: 204-626-7
- Density: 0,94 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -47 °C
- Boiling point: 166 °C
- Flash pt. 58 °C
- Ignition temp.: 640 °C
- Vapour pressure: (20 °C) 2 hPa
- Refraction index: (n 20 °C/D) 1,4233
- LD 50 (oral, rat): 4000 mg/kg
- EC-Index-No.: 603-016-00-1
- ADR: 3 F1 III UN 1148
- IMDG: 3 III UN 1148
- IATA/ICAO: 3 III UN 1148
- GHS-signal word: Warning
- GHS-H sentences: H226 - H319
- GHS-P sentences: P210 - P241 - P280 - P303 + P361 + P353 - P305 + P351 + P338 - P501a
- Tariff number: 2914 40 10 00
- Applications: solvents, for pharmaceutical use, in antifreeze compositions.
- Appearance: Clear liquid

assay (G.C.) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,938 - 0,940  
 residue on evaporation . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AL0225005P	5 l	

## 4-HYDROXY-L-PROLINE

HI0235 4-Hydroxy-L-proline, EssentQ®



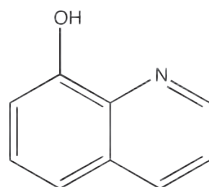
- Synonyms: L(-)-4-Hydroxypyrrolidine-2-carboxylic acid
- $C_5H_9NO_3$
- $M = 131,13 \text{ g/mol}$
- CAS [51-35-4]
- EINECS-No.: 200-091-9
- Solub. in water: (20 °C): 500 g/l
- Melting point: 274 °C
- Tariff number: 2933 99 90 90
- Applications: synthesis of organic products, laboratory reagent.

assay (titr. with  $HClO_4$ ) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 specific rotation ( $[\alpha]_{20}^{20} / D, c = 5, H_2O$ ) - 74 - - 77 °  
 chlorides (Cl) ..... max. 0,02 %  
 sulfates ( $SO_4$ ) ..... max. 0,02 %  
 ammonium ( $NH_4$ ) ..... max. 0,02 %  
 heavy metals (as Pb) ..... max 0,001 %  
 iron (Fe) ..... max 0,001 %  
 other aminoacids. .... max. 0 5 %  
 residue on ignition ..... max. 0,1 %  
 loss on drying (105 °C, 3 h) ..... max. 0,2 %

ART. NO.	VOLUME	CONTAINER
HI02350005	5 g	0
HI02350025	25 g	0

## 8-HYDROXYQUINOLINE

HI0257 8-Hydroxyquinoline, EssentQ®



- Synonyms: Oxine, 8-Quinolol, Hydroxybenzopyridine
- $C_8H_7NO$
- $M = 145,16 \text{ g/mol}$
- CAS [148-24-3]
- EINECS-No.: 205-711-1
- Solub. in water: (20 °C): insoluble
- Melting point: 73,8 °C
- Boiling point: 267 °C
- LD 50 (oral, rat): 1200 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2933 49 90 90
- Applications: synthesis of organic products, analytical chemistry.

assay (G.C.) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 residue on ignition (as  $SO_2$ ) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
HI02570250	250 g	0

# Deterlabo®

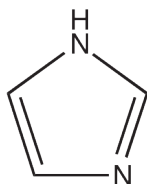
Laboratory Glassware,  
Utensils and Surface Cleaning

**Scharlau**  
The wise choice





## IMIDAZOLE



- Synonyms: 1,3-Diazole, Glyoxaline, Iminazole
- $C_4H_4N_2$
- $M = 68,08$  g/mol
- CAS [288-32-4]
- EINECS-No.: 206-019-2
- Solub. in water: (20 °C): 633 g/l
- Melting point: 90 - 91 °C
- Boiling point: 256 °C
- Flash pt. 145 °C
- Ignition temp.: 480 °C
- Vapour pressure: (20 °C) 0,003 hPa

- LD 50 (oral, rat): 220 mg/kg
- ADR: 8 C8 III UN 3263
- IMDG: 8 III UN 3263
- IATA/ICAO: 8 III UN 3263
- GHS-signal word: Danger
- GHS-H sentences: H360D - H314 - H302
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2933 21 00 90
- Applications: analytical chemistry, in buffer solutions.

### IM0025 Imidazole, EssentQ®



assay (titr. with  $HClO_4$ ) ..... min. 99%  
 identity (IR-spectrum) ..... passes test  
 residue on ignition ..... max. 0,1%  
 water (K.F.) ..... max. 0,5%

ART. NO.	VOLUME	CONTAINER
IM00250250	250 g	Ⓜ

ART. NO.	VOLUME	CONTAINER
IM00251000	1 kg	Ⓜ

### IM0026 Imidazole, ExpertQ®, for analysis, ACS



assay (titr. with  $HClO_4$ ) ..... min. 99,5%  
 identity (IR-spectrum) ..... passes test  
 pH (5 %,  $H_2O$ ) ..... 9,5 - 11,0  
 iron (Fe) ..... max. 5 ppm

UV-VIS spectroscopy ..... passes test  
 residue on ignition ..... max. 0,1 %  
 water (K.F.) ..... max. 0,2 %

ART. NO.	VOLUME	CONTAINER
IM00260250	250 g	Ⓜ
IM00261000	1 kg	Ⓜ

## IMMERSION OIL

### AC0031 Immersion oil, for microscopy

- Density: 0,92 g/cm<sup>3</sup>
- Solub. in water: (20 °C): almost non-miscible
- Melting point: < 0 °C
- Boiling point: 340 °C
- Flash pt. 163
- Vapour pressure: (23 °C) < 0,13 hPa
- Refraction index: (n 20 °C/D) 1,516

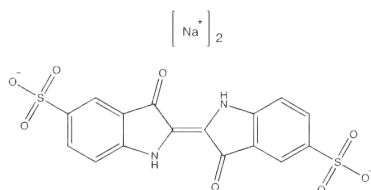
- Tariff number: 3822 00 00 00
- Applications: for biology, microscopy.

density (20°/4°) ..... 0,92 - 0,95  
 refractive index n<sub>20</sub>/D ..... 1,515 - 1,522  
 insoluble in  $C_2H_5OH$  ..... passes test  
 suitability for microscopy ..... passes test

ART. NO.	VOLUME	CONTAINER
AC00310100	100 ml	Ⓜ
AC00310250	250 ml	Ⓜ
AC00310500	500 ml	Ⓜ

## INDIGO CARMINE, C.I. 73015

### IN0065 Indigo carmine, C.I. 73015, Reag. Ph Eur



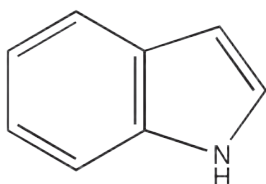
- Synonyms: Indigo-5,5'-disulfonic acid disodium salt, Acid Blue 74
- $C_{16}H_8N_2Na_2O_8S_2$
- $M = 466,35$  g/mol
- CAS [860-22-0]
- EINECS-No.: 212-728-8
- Solub. in water: (25 °C): 10 g/l
- LD 50 (oral, rat): > 2000 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 3204 12 00 00
- Applications: colouring agent (microscopy), for pharmaceutical use, in food industry, for the detection of: nitrates, chlorates.

assay (titr. with  $TiCl_4$ ) ..... 90 - 95 %  
 insoluble in water ..... max. 0,05 %  
 soluble in di-isopropyl ether ..... max. 0,05 %  
 chlorides (Cl) ..... max. 0,05 %  
 sulfates ( $SO_4$ ) ..... max. 0,3 %  
 arsenic (As) ..... max. 0,0001 %  
 copper (Cu) ..... max. 0,0001 %  
 heavy metals (as Pb) ..... max. 0,001 %  
 residue on ignition ..... 30 - 35 %  
 loss on drying (135 °C) ..... max. 2 %

ART. NO.	VOLUME	CONTAINER
IN00650010	10 g	Ⓜ
IN00650025	25 g	Ⓜ
IN00650100	100 g	Ⓜ

**INDOLE**

IN0120 Indole, ExpertQ®, for analysis



- Synonyms: 2,3-Benzopyrrole, 1H-Benzo[ $\beta$ ]pyrrole
- $C_8H_7N$
- $M = 117,15 \text{ g/mol}$
- CAS [120-72-9]
- EINECS-No.: 204-420-7
- Solub. in water: (25 °C): 3,56 g/l
- Melting point: 52,5 °C
- Boiling point: 254 °C
- Flash pt. 110 °C
- Vapour pressure: (25 °C) 0,016 hPa
- LD 50 (oral, rat): 1000 mg/kg
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H311 - H302
- GHS-P sentences: P280 - P361 - P322 - P363 - P405 - P501a
- Tariff number: 2933 99 20 00
- Applications: analytical chemistry, in biochemistry, in the paper industry.

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in  $C_2H_5OH$  . . . . . passes test  
 copper (Cu) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 0,001 %  
 residue on ignition . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
IN01200010	10 g	0

**IODINE**

- $I_2$
- $M = 253,81 \text{ g/mol}$
- CAS [7553-56-2]
- EINECS-No.: 231-442-4
- Solub. in water: (20 °C): 0,29 g/l
- Melting point: 114 °C
- Boiling point: 185 °C
- Vapour pressure: (25 °C) 0,41 hPa

- LD 50 (oral, rat): 14000 mg/kg
- EC-Index-No.: 053-001-00-3
- ADR: 8 CT2 III UN 3495
- IMDG: 8 III UN 3495
- IATA/ICAO: 8 III UN 3495
- GHS-signal word: Warning
- GHS-H sentences: H400 - H312 - H332

- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 2801 20 00 00
- Applications: synthesis of organic products, inorganic salts, for pharmaceutical use, disinfectant, stabilizer, manufacture of dyes, colouring agent, photography, catalyst, in the rubber industry, analytical chemistry, in biochemistry and for biology.

YO0019 Iodine, pearls, resublimed, extra pure, Pharpur®, Ph Eur, BP, USP



assay (iodometric) . . . . . 99,5 - 100,5 %  
 identification . . . . . passes test  
 chlorides and bromides (as Cl) . . . . . max. 250 ppm  
 residue on evaporation . . . . . max. 0,1 %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
YO00190100	100 g	0
YO00191000	1 kg	0

YO0021 Iodine, pearls, resublimed, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (iodometric) . . . . . 99,8 - 100,5 %  
 chlorides and bromides (as Cl) . . . . . max. 0,005 %  
 residue on evaporation . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
YO00210100	100 g	0
YO00210250	250 g	0

ART. NO.	VOLUME	CONTAINER
YO00211000	1 kg	0

**IODINE, VOLUMETRIC SOLUTIONS**

YO0022 Iodine, concentrated solution to prepare 1 l of solution 0,05 mol/l (0,1 N)

- $I_2$
- $M = 253,81 \text{ g/mol}$
- CAS [7553-56-2]
- EINECS-No.: 231-442-4
- Density: 1,38 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 14000 mg/kg (toxic component)
- Tariff number: 2801 20 00 00
- Applications: analytical chemistry, disinfectant, in biochemistry, for biology.

amount of substance: 12,690 g  $I_2$   
 concentrated solution . . . . . 0,5 mol/l  $\pm$  0,1 %

ART. NO.	VOLUME	CONTAINER
YO002200GA	u.	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## YO0023 Iodine, solution 0,05 mol/l (0,1 N)

- I<sub>2</sub>
- M = 253,81 g/mol
- CAS [7553-56-2]
- EINECS-No.: 231-442-4
- Density: 1,02 g/cm<sup>3</sup>
- EC-Index-No.: 053-001-00-3
- Tariff number: 2801 20 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,995 - 1,005  
 uncertainty ± 0,001  
 1 ml = 0,0127 g I<sub>2</sub>  
 This volumetric solution was checked by means of potentiometric methods using a sodium thiosulfate standard solution, that was also checked against Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
YO00231000	1 l	0
YO00232500	2,5 l	0

## YO0024 Iodine, solution 0,5 mol/l (1 N)

- I<sub>2</sub>
- M = 253,81 g/mol
- CAS [7553-56-2]
- EINECS-No.: 231-442-4
- Density: 1,27 g/cm<sup>3</sup>
- EC-Index-No.: 053-001-00-3
- Tariff number: 2801 20 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,995 - 1,005  
 uncertainty ± 0,001  
 1 ml = 0,127 g I<sub>2</sub>  
 This volumetric solution was checked by means of potentiometric methods using a sodium thiosulfate standard solution, that was also checked against Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
YO00241000	1 l	0

## YO0025 Iodine, solution 0,01 mol/l (0,02 N)

- I<sub>2</sub>
- M = 253,81 g/mol
- CAS [7553-56-2]
- EINECS-No.: 231-442-4
- Density: 1,005 g/cm<sup>3</sup>
- EC-Index-No.: 053-001-00-3
- Tariff number: 2801 20 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,995 - 1,005  
 uncertainty ± 0,001  
 1 ml = 0,002538 g I<sub>2</sub>  
 This volumetric solution was checked by means of potentiometric methods using a sodium thiosulfate standard solution, that was also checked against Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
YO00250500	500 ml	0
YO00251000	1 l	0

## YO0027 Iodine, solution 0,02365 mol/l (0,0473 N)

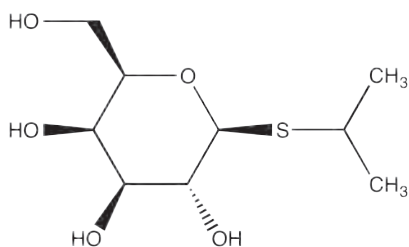
- I<sub>2</sub>
- M = 253,81 g/mol
- CAS [7553-56-2]
- EINECS-No.: 231-442-4
- EC-Index-No.: 053-001-00-3
- Tariff number: 2801 20 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,995 - 1,005  
 uncertainty ± 0,001  
 1 ml = 0,006003 g I<sub>2</sub>  
 This volumetric solution was checked by means of potentiometric methods using a sodium thiosulfate standard solution, that was also checked against Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
YO00271000	1 l	0

## IPTG

## IP0010 IPTG, molecular biology grade (dioxane free)



- Synonyms: Isopropyl-β-D-1-thiogalactopyranoside
- C<sub>9</sub>H<sub>18</sub>O<sub>5</sub>S
- M = 238,29 g/mol
- CAS [367-93-1]
- EINECS-No.: 206-703-0
- Solub. in water: (20 °C): 10 g/l
- Melting point: 109 -111 °C
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H332
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 2932 99 00 90
- Applications: for biology.

assay (HPLC) . . . . . min. 99 %  
 dioxane (G.C.) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
IP00100001	1 g	0

**IRON**

- Fe
- M = 55,85 g/mol
- CAS [7439-89-6]
- EINECS-No.: 231-096-4
- Solub. in water: (20°C): insoluble
- Melting point: 1535°C
- Boiling point: ~ 3000 °C
- Ignition temp.: > 100 °C
- LD 50 (oral, rat): 30000 mg/kg
- ADR: 4.1 F3 III UN 3089
- IMDG: 4.1 III UN 3089
- IATA/ICAO: 4.1 III UN 3089
- GHS-signal word: Warning
- GHS-H sentences: H228
- GHS-P sentences: P210 - P241 - P280 - P240 - P370 + P378b
- Tariff number: 7205 29 00 00

HI0303 Iron, powder, EssentQ® (made by reduction), particle size < 100 µm



assay (cerimetric) . . . . . min. 99 %  
insoluble in HCl . . . . . max. 0,5 %  
solubility in water . . . . . max. 0,1 %  
chlorides (Cl) . . . . . max. 0,001 %  
sulfides (S) . . . . . max. 0,01 %  
arsenic (As) . . . . . max. 5 ppm

copper (Cu) . . . . . max. 0,01 %  
lead (Pb) . . . . . max. 0,002 %  
manganese (Mn) . . . . . max. 0,1 %  
nickel (Ni) . . . . . max. 0,05 %  
zinc (Zn) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
HI03030250	250 g	Ⓟ
HI03030500	500 g	Ⓟ
HI03031000	1 kg	Ⓟ

HI0304 Iron, powder, EssentQ® (made by reduction), particle size < 150 µm



assay (cerimetric) . . . . . min. 99 %  
insoluble in HCl . . . . . max. 0,5 %  
solubility in water . . . . . max. 0,1 %  
chlorides (Cl) . . . . . max. 0,001 %  
sulfides (S) . . . . . max. 0,01 %  
arsenic (As) . . . . . max. 5 ppm

copper (Cu) . . . . . max. 0,01 %  
lead (Pb) . . . . . max. 0,002 %  
manganese (Mn) . . . . . max. 0,1 %  
nickel (Ni) . . . . . max. 0,05 %  
zinc (Zn) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
HI03041000	1 kg	Ⓟ

**IRON(III) CHLORIDE, 30%, AQUEOUS SOLUTION**

HI0333 Iron(III) chloride, 30%, aqueous solution, EssentQ®



- FeCl<sub>3</sub>·6H<sub>2</sub>O
- M = 270,32 g/mol
- CAS [7705-08-0]
- EINECS-No.: 231-729-4
- Density: 1,3 g/cm<sup>3</sup>
- LD 50 (oral, rat): 900 mg/kg (pure substance)
- ADR: 8 C1 III UN 2582
- IMDG: 8 III UN 2582
- IATA/ICAO: 8 III UN 2582

- GHS-signal word: Danger
- GHS-H sentences: H318 - H315
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P321 - P362 - P332 + P313
- Tariff number: 2827 39 20 00
- Applications: analytical chemistry, laboratory reagent.

assay (iodometric, as FeCl<sub>3</sub>) . . . . . approx. 30 %

ART. NO.	VOLUME	CONTAINER
HI03331000	1 l	Ⓟ
HI0333025P	25 l	Ⓟ

**IRON(III) NITRATE NONAHYDRATE**

HI0340 Iron(III) nitrate nonahydrate, EssentQ®, Reag. Ph Eur



- Fe(NO<sub>3</sub>)<sub>3</sub>·9H<sub>2</sub>O
- M = 404,00 g/mol
- CAS [7782-61-8]
- EINECS-No.: 233-899-5
- Solub. in water: (20 °C): soluble
- Melting point: 47 °C (decomposes)
- LD 50 (oral, rat): 3250 mg/kg
- ADR: 5.1 O2 III UN 1466
- IMDG: 5.1 III UN 1466
- IATA/ICAO: 5.1 III UN 1466
- GHS-signal word: Danger
- GHS-H sentences: H272 - H315 - H319
- GHS-P sentences: P221 - P210 - P220 - P305 + P351 + P338 - P321 - P501a
- Tariff number: 2834 29 80 00

- Applications: analytical chemistry, oxidizing agent, laboratory reagent.
- Appearance: Light purple crystalline powder

assay (iodometric) . . . . . min. 99,0 %  
insoluble in water . . . . . max. 0,05 %  
free acid (as HNO<sub>3</sub>) . . . . . max. 0,3 %  
chlorides (Cl) . . . . . max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
calcium (Ca) . . . . . max. 0,02 %  
copper (Cu) . . . . . max. 0,005 %  
iron (II) (Fe (II)) . . . . . max. 0,01 %  
lead (Pb) . . . . . max. 0,005 %  
magnesium (Mg) . . . . . max. 0,02 %  
zinc (Zn) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
HI03400500	500 g	Ⓟ
HI03401000	1 kg	Ⓟ

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## IRON(III) OXIDE

HI0341 Iron(III) oxide, EssentQ®

- $Fe_2O_3$
- $M = 159,70$  g/mol
- CAS [1309-37-1]
- EINECS-No.: 215-168-2
- Solub. in water: (20°C): insoluble
- Melting point: 1562°C (decomposes)
- Tariff number: 2821 10 00 90
- Applications: analytical chemistry, in the rubber industry (pigment), painting, in porcelain industry, in semiconductors industry, catalyst.

assay (iodometric) . . . . . min. 96 %  
 solubility in water . . . . . max. 1 %  
 phosphates (as  $PO_4$ ) . . . . . max. 0,3 %  
 sulfates ( $SO_4$ ) . . . . . max. 0,5 %  
 manganese (Mn) . . . . . max. 0,25 %  
 residue on ignition . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
HI03410500	500 g	
HI03411000	1 kg	

## IRON(II) SULFATE HEPTAHYDRATE

- Synonyms: Iron vitriol
- $FeSO_4 \cdot 7H_2O$
- $M = 278,02$  g/mol
- CAS [7782-63-0]
- EINECS-No.: 231-753-5

- Solub. in water: (20 °C): 665 g/l
- Melting point: > 60 °C (release of crystalline water)
- LD 50 (oral, rat): 319 mg/kg (anhydrous substance)
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P501a
- Tariff number: 2833 29 80 80
- Applications: analytical chemistry, determining COD.

HI0350 Iron(II) sulfate heptahydrate, extra pure, Pharpur®, Ph Eur, BP, USP



assay (cerimetric) . . . . . 99,5 - 104,5 %  
 identification . . . . . passes test  
 pH (5 %,  $H_2O$ ) . . . . . 3,0 - 4,0  
 arsenic (As) . . . . . max. 3 ppm  
 chlorides (Cl) . . . . . max. 200 ppm  
 chromium (Cr) . . . . . max. 50 ppm  
 copper (Cu) . . . . . max. 50 ppm  
 iron (III) (Fe (III)) . . . . . max. 0,3 %  
 lead (Pb) . . . . . max. 10 ppm

manganese (Mn) . . . . . max. 0,1 %  
 mercury (Hg) . . . . . max. 3 ppm  
 nickel (Ni) . . . . . max. 50 ppm  
 zinc (Zn) . . . . . max. 50 ppm  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 It should not be used if it is coated with brownish spots

ART. NO.	VOLUME	CONTAINER
HI03500500	500 g	
HI03501000	1 kg	
HI0350005P	5 kg	
HI0350025P	25 kg	

HI0351 Iron(II) sulfate heptahydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (cerimetric) . . . . . 98,0 - 105,0 %  
 assay (permanganometric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble matter . . . . . max. 0,01 %  
 appearance of solution . . . . . passes test  
 pH (5 %,  $H_2O$ ) . . . . . 3,0 - 4,0  
 chlorides (Cl) . . . . . max. 5 ppm  
 phosphates (as  $PO_4$ ) . . . . . max. 0,001 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 2 ppm  
 calcium (Ca) . . . . . max. 0,005 %  
 chromium (Cr) . . . . . max. 50 ppm

copper (Cu) . . . . . max. 0,001 %  
 iron (III) (Fe (III)) . . . . . max. 0,02 %  
 lead (Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,002 %  
 manganese (Mn) . . . . . max. 0,05 %  
 nickel (Ni) . . . . . max. 50 ppm  
 potassium (K) . . . . . max. 0,002 %  
 sodium (Na) . . . . . max. 0,02 %  
 zinc (Zn) . . . . . max. 50 ppm  
 substances not precipitated by ammonium hydroxide . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
HI03510500	500 g	
HI03511000	1 kg	
HI0351005P	5 kg	

## IRON(III) SULFATE HYDRATE

HI0352 Iron(III) sulfate hydrate, ExpertQ®, for analysis

- $Fe_2(SO_4)_3 \cdot xH_2O$
- $M = 399,87$  g/mol
- CAS [15244-10-7]
- EINECS-No.: 233-072-9
- Solub. in water: (20 °C): freely soluble
- Tariff number: 2833 29 80 80
- Applications: laboratory reagent, analytical chemistry, flotation agent (water).

assay (iodometric, as  $Fe_2(SO_4)_3$ ) . . . . . min. 75 %  
 insoluble in  $H_2SO_4$  . . . . . max. 0,025 %  
 chlorides (Cl) . . . . . max. 0,01 %  
 nitrates ( $NO_3$ ) . . . . . max. 0,02 %  
 copper (Cu) . . . . . max. 0,005 %  
 iron (II) (Fe (II)) . . . . . max. 0,1 %  
 potassium (K) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
HI03520500	500 g	
HI03521000	1 kg	
HI0352005P	5 kg	

## IRON(II) SULFIDE

HI0360 Iron(II) sulfide, for producing hydrogen sulfide

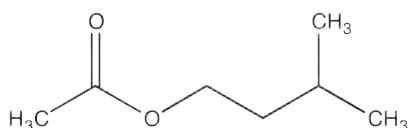
- FeS
- M = 87,92 g/mol
- CAS [1317-37-9]
- EINECS-No.: 215-268-6
- Solub. in water: (20 °C): almost insoluble
- Melting point: ~ 1195 °C
- Tariff number: 2830 90 11 00
- Applications: for the synthesis of: hydrogen sulfide, in porcelain industry, pigment, in lubricant compositions.

sulphide content ..... approx. 29 %

ART. NO.	VOLUME	CONTAINER
HI03600500	500 g	Ⓜ
HI03601000	1 kg	Ⓜ

## ISOAMYL ACETATE

AC0157 Isoamyl acetate, EssentQ®

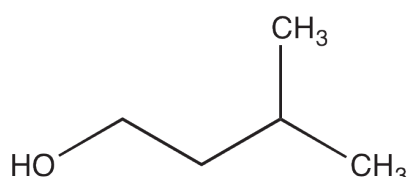


- Synonyms: Acetic acid isoamyl ester, 3-Methylbutyl acetate
- C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>
- M = 130,19 g/mol
- CAS [123-92-2]
- EINECS-No.: 204-662-3
- Density: 0,87 g/cm<sup>3</sup>
- Solub. in water: (19,4 °C): 2,12 g/l
- Melting point: -78 °C
- Boiling point: 141 °C
- Flash pt. 25 °C
- Ignition temp.: 355 °C
- Vapour pressure: (20 °C) 4 hPa
- LD 50 (oral, rat): > 5000 mg/kg
- EC-Index-No.: 607-130-00-2 [2]
- ADR: 3 F1 III UN 1104
- IMDG: 3 III UN 1104
- IATA/ICAO: 3 III UN 1104
- GHS-signal word: Warning
- GHS-H sentences: H226 - EUH066
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2915 39 30 00
- Applications: analytical chemistry, solvents, synthesis of organic products, perfumery.

assay (G.C.) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,872 - 0,873  
 free acid (as CH<sub>3</sub>COOH) ..... max. 0,02 %  
 copper (Cu) ..... max. 0,2 ppm  
 iron (Fe) ..... max. 0,5 ppm  
 lead (Pb) ..... max. 0,2 ppm  
 nickel (Ni) ..... max. 0,2 ppm  
 isoamyl alcohol (G.C.) ..... max. 1 %  
 residue on evaporation ..... max. 0,005 %  
 water (K.F.) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC01571000	1 l	Ⓜ

## ISOAMYL ALCOHOL



- Synonyms: 3-Methyl-1-butanol, Isopentyl alcohol
- C<sub>5</sub>H<sub>12</sub>O
- M = 88,15 g/mol
- CAS [123-51-3]
- EINECS-No.: 204-633-5
- Density: 0,81 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 25 g/l
- Melting point: -117 °C
- Boiling point: 131 °C
- Flash pt. 43 °C
- Ignition temp.: 340 °C
- Vapour pressure: (20 °C) 3,1 hPa
- Dielectric const.: (20 °C) 14,7
- LD 50 (oral, rat): > 5000 mg/kg
- EC-Index-No.: 603-006-00-7
- ADR: 3 F1 III UN 1105
- IMDG: 3 III UN 1105
- IATA/ICAO: 3 III UN 1105
- GHS-signal word: Warning
- GHS-H sentences: H226 - H302
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2905 19 00 98
- Applications: analytical chemistry, solvents, synthesis of organic products, for determination of: fats in milk.

AL0285 Isoamyl alcohol, mixture of isomers, EssentQ®



total isomer content (G.C.) ..... min. 99 %  
 organic impurities ..... passes test  
 suitability for det. of fat in milk ..... passes test  
 water (K.F.) ..... max. 0,3 %

ART. NO.	VOLUME	CONTAINER
AL02851000	1 l	Ⓜ
AL02852500	2,5 l	Ⓜ

ART. NO.	VOLUME	CONTAINER
AL0285005P	5 l	Ⓜ



## ME0376 Isoamyl alcohol, ExpertQ®, for analysis, ACS

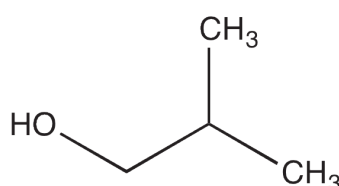


assay (G.C.) . . . . . min. 98,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,808 - 0,809  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,002 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm

magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 acids, esters (as pentylacetate) . . . . . max. 0,06 %  
 carbonyl compounds (as CO) . . . . . max. 0,005 %  
 furfural . . . . . max. 0,0001 %  
 2,2- dimethyl-1- propanol (G.C.) . . . . . max. 0,2 %  
 2- methyl-1- butanol (G.C.) . . . . . max. 1 %  
 1-pentanal (G.C.) . . . . . max. 0,5 %  
 1-pentanol (G.C.) . . . . . max. 0,5 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,002 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
ME03761000	1 l	0
ME03762500	2,5 l	0
ME0376005P	5 l	0

## ISOBUTANOL



- Synonyms: 2-Methyl-1-propanol, Isobutyl alcohol, Isopropylcarbinol, iso-Butanol
- C<sub>4</sub>H<sub>10</sub>O
- M = 74,12 g/mol
- CAS [78-83-1]
- EINECS-No.: 201-148-0
- Density: 0,8 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 80 g/l
- Melting point: -108 °C
- Boiling point: 108 °C
- Flash pt. 28 °C
- Ignition temp.: 430 °C
- Vapour pressure: (20 °C) 12 hPa
- Refraction index: (n 20 °C/D) 1,3955
- Dielectric const.: (20 °C) 17,7

- LD 50 (oral, rat): 2460 mg/kg
- EC-Index-No.: 603-108-00-1
- ADR: 3 F1 III UN 1212
- IMDG: 3 III UN 1212
- IATA/ICAO: 3 III UN 1212
- GHS-signal word: Danger
- GHS-H sentences: H318 - H226 - H335 - H336 - H315
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2905 14 90 00
- Applications: synthesis of organic products, perfumery, solvents (painting), analytical chemistry, laboratory reagent.
- Appearance: Colourless clear liquid

## AL0293 Isobutanol, EssentQ®



assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,801 - 0,802  
 residue on evaporation . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AL02931000	1 l	0
AL02932500	2,5 l	0

ART. NO.	VOLUME	CONTAINER
AL0293005P	5 l	0
AL0293025P	25 l	0

## AL0295 Isobutanol, ExpertQ®, for analysis, ACS



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,801 - 0,802  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0005 meq/g  
 solubility in water . . . . . passes test  
 aluminium (Al) . . . . . max. 0,5 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm

lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 n-butyl alcohol (G.C.) . . . . . max. 0,1 %  
 isobutyraldehyde (G.C.) . . . . . max. 0,05 %  
 n-butylaldehyde (G.C.) . . . . . max. 0,01 %  
 2-butanol (G.C.) . . . . . max. 0,05 %  
 methylethylketone (G.C.) . . . . . max. 0,02 %  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,001 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AL02951000	1 l	0
AL02952500	2,5 l	0
AL0295005P	5 l	0

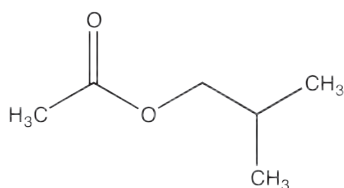
## AL0296 Isobutanol, standard substance for GC



assay . . . . . 99,7 %  
 over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200 °C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
AL02960005	5 ml	0

## ISOBUTYL ACETATE



- Synonyms: Acetic acid isobutyl ester
- $C_6H_{12}O_2$
- $M = 116,16 \text{ g/mol}$
- CAS [110-19-0]
- EINECS-No.: 203-745-1
- Density:  $0,87 \text{ g/cm}^3$
- Solub. in water: (20 °C):  $7 \text{ g/l}$
- Melting point:  $-99 \text{ °C}$
- Boiling point:  $116 - 118 \text{ °C}$
- Flash pt.  $18 \text{ °C}$
- Ignition temp.:  $510 \text{ °C}$
- Vapour pressure: (20 °C)  $17 \text{ hPa}$
- Refraction index: (n 20 °C/D)  $1,3877$

- Dielectric const.: (20 °C)  $5,3$
- LD 50 (oral, rat):  $13400 \text{ mg/kg}$
- EC-Index-No.: 607-026-00-7 [3]
- ADR: 3 F1 II UN 1213
- IMDG: 3 II UN 1213
- IATA/ICAO: 3 II UN 1213
- GHS-signal word: Danger
- GHS-H sentences: H225 - EUH066
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2915 34 00 00
- Applications: synthesis of organic products, solvents, in food industry.

### AC0170 Isobutyl acetate, EssentQ®



assay (G.C.) ..... min. 96 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,870 - 0,875  
 water (K.F.) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC01701000	1 l	0

### AC0171 Isobutyl Acetate, standard substance for GC

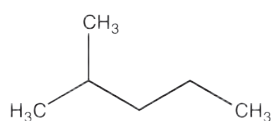


assay ..... 99,2 %  
 over ramp ..... 60°C, 6°C/min 160°C, 20°C/min 220°C  
 identity ..... IR

ART. NO.	VOLUME	CONTAINER
AC01710005	5ml	0

## ISOHEXANE

### IS0122 Isohexane, Multisolvent® HPLC grade UV-VIS



(main isomer)

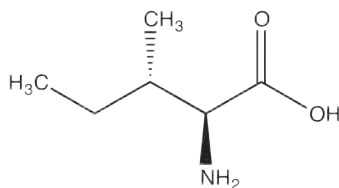
- $C_6H_{14}$
- $M = 86,18 \text{ g/mol}$
- CAS [73513-42-5]
- EINECS-No.: 295-570-2
- Density:  $0,65 \text{ g/cm}^3$
- Solub. in water: (20 °C):  $0,02 \text{ g/l}$
- Melting point:  $-153 \text{ °C}$
- Boiling point:  $53 - 63 \text{ °C}$
- Flash pt.  $-26 \text{ °C}$
- Ignition temp.:  $260 \text{ °C}$
- Vapour pressure: (20 °C)  $240 \text{ hPa}$
- LD 50 (oral, rat):  $> 5000 \text{ mg/kg}$
- EC-Index-No.: 601-007-00-7
- ADR: 3 F1 II UN 1208
- IMDG: 3 II UN 1208
- IATA/ICAO: 3 II UN 1208
- GHS-signal word: Danger
- GHS-H sentences: H224 - H304 - H315 - H336 - H411
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P321 - P405 - P501a
- Tariff number: 2901 10 00 00
- Applications: analytical chemistry, chromatography, solvent for fat and oil extractions.
- Appearance: Colourless, clear liquid

assay (G.C.) ..... min. 97 %  
 identity (IR-spectrum) ..... passes test  
 appearance ..... clear  
 colour (Hazen) ..... max. 10  
 acidity ..... max. 0,0003 meq/g  
 aluminium (Al) ..... max. 0,1 ppm  
 barium (Ba) ..... max. 0,01 ppm  
 boron (B) ..... max. 0,02 ppm  
 cadmium (Cd) ..... max. 0,01 ppm  
 calcium (Ca) ..... max. 0,3 ppm  
 chromium (Cr) ..... max. 0,02 ppm  
 cobalt (Co) ..... max. 0,02 ppm  
 copper (Cu) ..... max. 0,02 ppm  
 iron (Fe) ..... max. 0,02 ppm  
 lead (Pb) ..... max. 0,1 ppm  
 magnesium (Mg) ..... max. 0,1 ppm  
 manganese (Mn) ..... max. 0,01 ppm  
 nickel (Ni) ..... max. 0,02 ppm  
 tin (Sn) ..... max. 0,1 ppm  
 zinc (Zn) ..... max. 0,01 ppm  
 n-hexane (G.C.) ..... max. 3 %  
 aromatic hydrocarbons (as  $C_6H_6$ ) ..... max. 0,01 %  
 sulfur compounds (as S) ..... max. 0,005 %  
 thiophene ( $C_4H_4S$ ) ..... max. 0,0001 %  
 substances darkened by  $H_2SO_4$  ..... passes test  
 residue on evaporation ..... max. 0,002 %  
 water (K.F.) ..... max. 0,005 %  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 200 nm ..... 10 % 1,000 AU  
 210 nm ..... 50 % 0,301 AU  
 217 nm ..... 70 % 0,155 AU  
 225 nm ..... 80 % 0,097 AU  
 245 nm ..... 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22  $\mu\text{m}$

ART. NO.	VOLUME	CONTAINER
IS01221000	1 l	0
IS01222500	2,5 l	0

## L-ISOLEUCINE

IS0140 L-Isoleucine, extra pure, Pharmapur®, Ph Eur, BP, USP

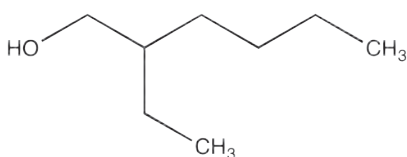


- Synonyms: Ile, 2-Amino-3-methylvaleric acid, (2S,3S)-2-Amino-3-methylpentanoic acid
- $C_6H_{13}NO_2$
- $M = 131,18 \text{ g/mol}$
- CAS [73-32-5]
- EINECS-No.: 200-798-2
- Solub. in water: (20 °C): 32,1 g/l
- Melting point: 279 - 280 °C (decomposes)
- Tariff number: 2922 49 95 90
- Applications: synthesis of organic products, for pharmaceutical use, in food industry.

assay (titr. with  $HClO_4$ , referred to dried sample) . . . . . 98,5 - 101,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 specific rotation ( $[\alpha]_{20}^D$ ,  $c = 4$ ,  $HCl$  250g/l, on dried sample) . . . . . + 40,0° - + 43,0°  
 specific rotation ( $[\alpha]_{25}^D$ ;  $c=4$ ,  $HCl$  6N) . . . . . + 38,9° - + 41,8°  
 pH (1 %  $H_2O$ ) . . . . . 5,5 - 7,0  
 chlorides (Cl) . . . . . max. 200 ppm  
 sulfates ( $SO_4$ ) . . . . . max. 300 ppm  
 ammonium ( $NH_4$ ) . . . . . max. 0,02 %  
 iron (Fe) . . . . . max. 10 ppm  
 ninhydrin-positive substances . . . . . passes test  
 residue on ignition . . . . . max. 0,3 %  
 loss on drying (105 °C, 3 h) . . . . . max. 0,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
IS01400025	25 g	0

## ISOCTANOL



- Synonyms: 2-Ethyl-1-hexanol, Isooctyl alcohol
- $C_8H_{18}O$
- $M = 130,23 \text{ g/mol}$
- CAS [104-76-7]
- EINECS-No.: 203-234-3
- Density: 0,83  $g/cm^3$
- Solub. in water: (20 °C): 1,1 g/l
- Melting point: -76 °C
- Boiling point: 185 °C
- Flash pt. 75 °C
- Ignition temp.: 270 - 330 °C
- Vapour pressure: (20 °C) 0,13 hPa
- Refraction index: ( $n_{20}^C/D$ ) 1,4317

- Dielectric const.: (20 °C) 7,7
- LD 50 (oral, rat): 3730 mg/kg
- ADR: Not regulated
- IMDG: Not regulated
- IATA/ICAO: 9 UN 3334
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2905 16 85 10
- Applications: analytical chemistry, chromatography, in the textile industry, solvents (manufacture of dyes, resins, oils), antifoaming agent.

ET0205 Isooctanol, EssentQ®



assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,832 - 0,833  
 acidity . . . . . max. 0,002 meq/g  
 copper (Cu) . . . . . max. 0,2 ppm

iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 water (K.F.) . . . . . max. 0,15 %

ART. NO.	VOLUME	CONTAINER
ET02051000	1 l	0

IS0162 Isooctanol, HPLC grade



assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,832 - 0,833  
 acidity . . . . . max. 0,002 meq/g  
 alkalinity . . . . . max. 0,001 meq/g  
 residue on evaporation . . . . . max. 0,0003 %  
 water (K.F.) . . . . . max. 0,15 %

min. transmission/max. absorbance in a 1,0 cm cell at wavelength  
 T(%) A (AU)  
 240 nm . . . . . .40 % 0,398 AU  
 260 nm . . . . . .80 % 0,097 AU  
 Microfiltered through membranes of pore diameter 0,22  $\mu m$

ART. NO.	VOLUME	CONTAINER
IS01622500	2,5 l	0

## ISOPARAFFIN L

IS0170 Isoparaffin L, EssentQ®



- Synonyms: Isopar L
- CAS [90622-58-5]
- EINECS-No.: 292-460-6
- Density: 0,770 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: 260 °C
- Refraction index: (n 20 °C/D) 1,428
- GHS-signal word: Danger
- GHS-H sentences: H304 - EUH066

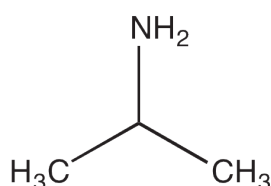
- GHS-P sentences: P281 - P201 - P308 + P313 - P331 - P405 - P501a
- Tariff number: 2712 20 90 00
- Applications: solvents, substitute of xylene, in combustion processes.

aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) . . . . . max. 0,1 %  
sulfur compounds (as S) . . . . . max. 0,001 %  
residue on ignition . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
IS01701000	1 l	0
IS0170005P	5 l	0

## ISOPROPYLAMINE

IS0175 Isopropylamine, EssentQ®



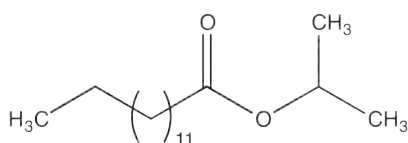
- Synonyms: 2-Aminopropane
- C<sub>3</sub>H<sub>9</sub>N
- M = 59,11 g/mol
- CAS [75-31-0]
- EINECS-No.: 200-860-9
- Density: 0,69 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -101 °C
- Boiling point: 31 - 33 °C
- Flash pt. -37 °C
- Ignition temp.: 330 °C
- Vapour pressure: (20 °C) 632 hPa
- Refraction index: (n 20 °C/D) 1,3746
- LD 50 (oral, rat): 550 mg/kg
- EC-Index-No.: 612-007-00-1
- ADR: 3 FC I UN 1221
- IMDG: 3 I UN 1221
- IATA/ICAO: 3 I UN 1221
- GHS-signal word: Danger
- GHS-H sentences: H224 - H315 - H319 - H335
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2921 19 30 00
- Applications: synthesis of organic products, analytical chemistry, chromatography.

assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,687 - 0,688  
water (K.F.) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
IS01751000	1 l	0

## ISOPROPYL MYRISTATE

MI0020 Isopropyl myristate, EssentQ®



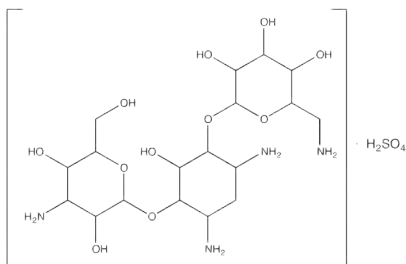
- Synonyms: Tetradecanoic acid isopropyl ester, Myristic acid isopropyl ester
- C<sub>17</sub>H<sub>34</sub>O<sub>2</sub>
- M = 270,46 g/mol
- CAS [110-27-0]
- EINECS-No.: 203-751-4
- Density: 0,85 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: 0 - 1 °C
- Boiling point: (3 hPa) 140 °C
- Flash pt. 150 °C
- Ignition temp.: > 300 °C
- Vapour pressure: (20 °C) < 1hPa
- Refraction index: (n 20 °C/D) 1,4340
- Tariff number: 2915 90 80 90
- Applications: synthesis of organic products, cosmetics, for pharmaceutical use.

assay (G.C.) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,853 - 0,854  
residue on ignition . . . . . max. 0,01 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
MI00201000	1 l	0
MI0020025P	25 l	0

## KANAMYCIN SULFATE

KA0010 Kanamycin sulfate, molecular biology grade



- Synonyms: Kanamycin A sulfate
- $C_{26}H_{45}N_7O_{13} \cdot H_2SO_4$
- $M = 582,58 \text{ g/mol}$
- CAS [25389-94-0]
- EINECS-No.: 246-933-9
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H360
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2941 90 00 90
- Applications: for microbiology, antibiotic.

specific rotation ( $[\alpha]_{20}^D$ ,  
 $c = 1, \text{H}_2\text{O}$ ) ..... + 112° - + 123°  
 pH (1 %  $\text{H}_2\text{O}$ ) ..... 6,5 - 8,5  
 loss on drying (60 °C, 1Torr) ..... max. 1,5 %

ART. NO.	VOLUME	CONTAINER
KA00100005	5 g	0
KA00100025	25 g	0

## KARL FISCHER REAGENTS, FREE FROM PYRIDINE, FOR VOLUMETRIC TITRATION

AQ0001 Aquagent® Titrant 5, free from pyridine, titrant-component for volumetric Karl Fischer titration



- Density: ~ 0,86 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 11 °C
- LD 50 (oral, rat): 5628 mg/kg (methanol)
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992
- IATA/ICAO: 3 II UN 1992
- GHS-signal word: Danger

- GHS-H sentences: H225 - H331 - H370
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent.

For use with: Aquagent® Solvent (AQ0029)  
 Contains methanol

ART. NO.	VOLUME	CONTAINER
AQ00010500	500 ml	0
AQ00011000	1 l	0
AQ00012500	2,5 l	0

AQ0003 Aquagent® Complet 5, free from pyridine, one-component reagent for volumetric Karl Fischer titration



- Density: 1,17 g/cm<sup>3</sup>
- Boiling point: 194 °C
- Flash pt. 90 °C
- GHS-signal word: Danger
- GHS-H sentences: H360D
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent.

1 ml = 5 mg H<sub>2</sub>O approx.  
 Contains imidazole, sulfur dioxide and diethyleneglycol monoethyl ether. Air humidity will change the titre. Protect from moisture

ART. NO.	VOLUME	CONTAINER
AQ00030500	500 ml	0
AQ00031000	1 l	0
AQ00032500	2,5 l	0

AQ0004 Aquagent® Complet 5K, free from pyridine, one-component reagent for volumetric Karl Fischer titration (ketones, aldehydes)



- Density: 1,17 g/cm<sup>3</sup>
- Boiling point: 194 °C
- Flash pt. 90 °C
- GHS-signal word: Danger
- GHS-H sentences: H360D
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent.

1 ml = 5 mg H<sub>2</sub>O approx.  
 Contains imidazole, sulfur dioxide and diethyleneglycol monoethyl ether. Air humidity will change the titre. Protect from moisture

ART. NO.	VOLUME	CONTAINER
AQ00040500	500 ml	0
AQ00041000	1 l	0

AQ0005 Aquagent® Medium K, free from pyridine, solvent for volumetric Karl Fischer titration (ketones, aldehydes)



- Density: 1,35 g/cm<sup>3</sup>
- Boiling point: 60 °C
- Flash pt. > 100 °C
- ADR: 6.1 T1 I UN 2810
- IMDG: 6.1 I UN 2810
- IATA/ICAO: 6.1 I UN 2810
- GHS-signal word: Danger

- GHS-H sentences: H301 - H310 - H330 - H372 - H351 - H361d - H315 - H319
- GHS-P sentences: P260 - P301 + P310 - P320 - P361 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent.

For use with: Aquagent® Complet 5K (AQ0004)  
 Contains trichloromethane and 2-chloroethanol

ART. NO.	VOLUME	CONTAINER
AQ00050500	500 ml	0
AQ00051000	1 l	0

AQ0006 Aquagent® Titrant 2, free from pyridine, titrant-component for volumetric Karl Fischer titration



- Flash pt. 11 °C
- LD 50 (oral, rat): 5628 mg/kg (methanol)
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992
- IATA/ICAO: 3 II UN 1992
- GHS-signal word: Danger
- GHS-H sentences: H225 - H331 - H370

- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent.

For use with: Aquagent® Solvent (AQ0029)  
 Contains methanol

ART. NO.	VOLUME	CONTAINER
AQ00060500	500 ml	0
AQ00061000	1 l	0

AQ0007 Aquagent® Complet 2, free from pyridine, one-component reagent for volumetric Karl Fischer titration



- Density: 1,13 g/cm<sup>3</sup>
- Boiling point: 194 °C
- Flash pt. 90 °C
- GHS-signal word: Danger
- GHS-H sentences: H360D - H319
- GHS-P sentences: P280 - P281 - P305 + P351 + P338 - P308 + P313 - P405 - P501a

- Tariff number: 3822 00 00 00
  - Applications: analytical chemistry, laboratory reagent.
- 1 ml = 2 mg H<sub>2</sub>O approx.  
 Contains imidazole, sulfur dioxide and diethyleneglycol monoethyl ether. Air humidity will change the titre. Protect from moisture

ART. NO.	VOLUME	CONTAINER
AQ00070500	500 ml	0
AQ00071000	1 l	0
AQ00072500	2,5 l	0

**AQ0008** Aquagent® Solvent CM, solvent-component for volumetric Karl Fischer titration in oils and fats



- Density: 1,25 g/cm<sup>3</sup>
- Boiling point: 60 - 65 °C
- Flash pt. > 100 °C
- ADR: 6.1 T1 II UN 2810
- IMDG: 6.1 II UN 2810
- IATA/ICAO: 6.1 II UN 2810
- GHS-signal word: Danger
- GHS-H sentences: H311 - H331 - H360D - H370 - H372 - H351 - H314 - H302

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for water determination.

For use with: Aquagent® Titrant 5 (AQ0001), Aquagent® Titrant 2 (AQ0006)  
Contains imidazole, sulfur dioxide, chloroform and methanol

ART. NO.	VOLUME	CONTAINER
AQ00081000	1 l	0
AQ00082500	2,5 l	0

**AQ0009** Aquagent® buffer, free from pyridine, buffer capacity 5 mmol acid/ml



- Density: ~ 0,88 g/cm<sup>3</sup>
- Flash pt. 11 °C
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992
- IATA/ICAO: 3 II UN 1992
- GHS-signal word: Danger
- GHS-H sentences: H225 - H331 - H360D - H370 - H314

- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent.

Contains methanol

ART. NO.	VOLUME	CONTAINER
AQ00090500	500 ml	0
AQ00091000	1 l	0

**AQ0011** Aquagent® Methanol Fast



- Density: 0,82 g/cm<sup>3</sup>
- Solub. in water (20 °C): miscible
- Flash pt. 11 °C
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992
- IATA/ICAO: 3 II UN 1992
- GHS-signal word: Danger
- GHS-H sentences: H225 - H331 - H360D - H370 - H314

- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00

For use with: Aquagent® Complet 5 (AQ0003), Aquagent® Complet 2 (AQ0007)  
Reagent for accelerated volumetric titration  
Contains imidazole, sulfur dioxide and methanol

ART. NO.	VOLUME	CONTAINER
AQ00111000	1 l	0
AQ00112500	2,5 l	0

**AQ0029** Aquagent® Solvent, free from pyridine, solvent for volumetric two-components Karl Fischer titration



- Density: 0,875 g/cm<sup>3</sup>
- Flash pt. 10°C
- ADR: 3 FTC II UN 3286
- IMDG: 3 II UN 3286
- IATA/ICAO: 3 II UN 3286
- GHS-signal word: Danger
- GHS-H sentences: H225 - H331 - H360D - H370 - H314

- GHS-P sentences: P310 - P321 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00

For use with: Aquagent® Titrant 5 (AQ0001), Aquagent® Titrant 2 (AQ0006)

ART. NO.	VOLUME	CONTAINER
AQ00291000	1 l	0
AQ00292500	2,5 l	0

## KARL FISCHER REAGENTS, FREE FROM PYRIDINE, FOR COULOMETRIC TITRATION

**AQ0014** Aquagent® Coulometric CG, catholyte for coulometric Karl Fischer titration, suitable for cells with diaphragm



- Density: 1,070
- ADR: 3 FC III UN 2924
- IMDG: 3 III UN 2924
- IATA/ICAO: 3 III UN 2924
- GHS-signal word: Danger
- GHS-H sentences: H225 - H331 - H315 - H318 - H370
- GHS-P sentences: P303 + P361 + P353 - P305 + P351 + P338 - P310 - P321 - P362 + P364 - P405 - P501a

- Tariff number: 3822 00 00 00
- Appearance: yellowish

Suitability for coulometric KF titration . . . . .passes test  
Suitable for cells with diaphragm.  
Protect from moisture

ART. NO.	VOLUME	CONTAINER
AQ00140050	10 x 5ml	0
AQ00140100	100ml	0

**AQ0017** Aquagent® Coulometric AG, anolyte for coulometric Karl Fischer titration, suitable for cells with & without diaphragm



- Density: 0,90 g/cm<sup>3</sup>
- Flash pt. 10°C
- ADR: 3 FTC II UN 3286
- IMDG: 3 II UN 3286
- IATA/ICAO: 3 II UN 3286
- GHS-signal word: Danger
- GHS-H sentences: H225 - H331 - H314 - H360D - H370

- GHS-P sentences: P303 + P361 + P353 - P305 + P351 + P338 - P310 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Appearance: yellowish

Suitability for coulometric KF titration . . . . .passes test  
Protect from moisture

ART. NO.	VOLUME	CONTAINER
AQ00170500	500 ml	0
AQ00171000	1 l	0

**AQ0018** Aquagent® Coulometric A, anolyte for coulometric Karl Fischer titration, suitable for cells with diaphragm



- Density: 1,09 g/cm<sup>3</sup>
- Boiling point: 62°C
- Flash pt. 10°C
- Ignition temp.: 455°C
- Vapour pressure: 210 hPa
- ADR: 3 FTC II UN 3286
- IMDG: 3 II UN 3286
- IATA/ICAO: 3 II UN 3286
- GHS-signal word: Danger

- GHS-H sentences: H225 - H302 - H311 + H331 - H314 - H351 - H360D - H370 - H372
- GHS-P sentences: P303 + P361 + P353 - P305 + P351 + P338 - P310 - P321 - P361 + P364 - P405 - P501a
- Tariff number: 3822 00 00 00

Suitability for coulometric KF titration . . . . .passes test  
Suitable for cells with diaphragm  
Protect from moisture

ART. NO.	VOLUME	CONTAINER
AQ00180500	500 ml	0



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

AQ0025 Aquagent® Coulometric Oil



- Density: 0,98 g/cm<sup>3</sup>
- Flash pt. 8 °C
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992
- IATA/ICAO: 3 II UN 1992
- GHS-signal word: Danger
- GHS-H sentences: H225 - H301 - H311 - H331 - H360D - H370 - H372 - H351 - H314
- GHS-P sentences: P210 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a

- Tariff number: 3822 00 00 00
- Suitability for coulometric  
KF titration . . . . . passes test  
Contains methanol, chloroform, imidazole, xylol, sulfur dioxide  
Suitable for cells with diaphragm  
Protect from moisture

ART. NO.	VOLUME	CONTAINER
AQ00250100	100 ml	0

## KARL FISCHER REAGENTS, WITH PYRIDINE

RE0013 Karl Fischer reagent 5, one-component reagent



- Density: 1,19 g/cm<sup>3</sup>
- Flash pt. 35 °C
- ADR: 3 FT1 III UN 1992
- IMDG: 3 III UN 1992
- IATA/ICAO: 3 III UN 1992
- GHS-signal word: Danger
- GHS-H sentences: H360FD - H226 - H312 - H332 - H315

- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for water determination.

1 ml = 5 mg H<sub>2</sub>O approx.

ART. NO.	VOLUME	CONTAINER
RE00131000	1 l	0

## KARL FISCHER REAGENTS, STANDARDS

AQ0012 Aquagent®, Standard solution 0,1. Suitable for coulometric Karl Fischer equipment.



- C<sub>8</sub>H<sub>10</sub>
- M<sub>r</sub> = 106,17 g/mol
- Density: 0,86 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 0,2 g/l
- Melting point: > -34 °C
- Boiling point: 137 - 143 °C
- Flash pt. 25 °C
- Ignition temp.: ~ 465 °C
- Vapour pressure: (20 °C) 10 hPa
- Dielectric const.: (25 °C) 2,4

- ADR: 3 F1 III UN 1307
- IMDG: 3 III UN 1307
- IATA/ICAO: 3 III UN 1307
- GHS-signal word: Warning
- GHS-H sentences: H226 - H312 - H332 - H315
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P321 - P501a
- Tariff number: 3822 00 00 00

Water standard for coulometric. KF titration.  
water content . . . . . 0,1 mg/g  
contains . . . . . 0,1 mg H<sub>2</sub>O/1 g standard  
Air humidity will change the water content.  
Protect from moisture

ART. NO.	VOLUME	CONTAINER
AQ00120080	10 x 8 ml	0

AQ0019 Aquagent®, standard solution 1



- Density: (20 °C) 1,00 g/cm<sup>3</sup>
- Flash pt. 43 °C
- ADR: 3 F1 III UN 2222
- IMDG: 3 III UN 2222
- IATA/ICAO: 3 III UN 2222
- GHS-signal word: Warning
- GHS-H sentences: H226
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2909 30 90 90

Water standard for coulometric. KF titration.  
water content . . . . . 1,0 mg/g  
contains . . . . . 1,0 mg H<sub>2</sub>O/1 g standard  
Air humidity will change the water content.  
Protect from moisture

ART. NO.	VOLUME	CONTAINER
AQ00190040	10 x 4 ml	0

AQ0021 Aquagent®, standard solution 5



- Density: 0,85 g/cm<sup>3</sup>
- Flash pt. 21 °C
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225 - H318 - H332 - H335 - H336 - H315
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, standard (for water determination).

Water standard for volumetric KF titration.  
water content . . . . . 5,00 ± 0,02 mg/ml (5,88 ± 0,02 mg/g)  
contains . . . . . 5,00 mg H<sub>2</sub>O/ml  
Air humidity will change the water content.  
Protect from moisture

ART. NO.	VOLUME	CONTAINER
AQ00210100	100 ml	0
AQ00210500	500 ml	0

AQ0020 Aquagent®, standard solution 10



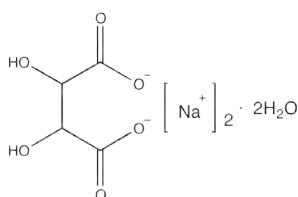
- Density: 1,00 g/cm<sup>3</sup>
- Flash pt. 30 °C
- ADR: 3 F1 III UN 1993
- IMDG: 3 III UN 1993
- IATA/ICAO: 3 III UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H318 - H226 - H335 - H336 - H315
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a

- Tariff number: 3822 00 00 00

Water standard for volumetric. KF titration.  
water content . . . . . 10,0 mg/g  
contains . . . . . 10,0 mg H<sub>2</sub>O/1 g standard  
Air humidity will change the water content  
Protect from moisture

ART. NO.	VOLUME	CONTAINER
AQ00200080	10 x 8 ml	0

AQ0030 Aquagent®, di-Sodium tartrate dihydrate, secondary standard for volumetric Karl-Fischer titration



- Synonyms: Tartaric acid sodium salt dihydrate
- C<sub>4</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>6</sub> · 2H<sub>2</sub>O
- M = 230,03 g/mol
- CAS [6106-24-7]
- EINECS-No.: 212-773-3
- Solub. in water: (20 °C): 290 g/l
- Melting point: 154 °C
- LD 50 (oral, rat): 1290 mg/kg
- Tariff number: 2918 13 00 90
- Applications: analytical chemistry, for water determination.

water ..... 15,61 - 15,71 %

ART. NO.	VOLUME	CONTAINER
AQ00300025	25 g	0
AQ00300100	100 g	0

## KEROSENE

KE0101 Aliphatic hydrocarbons mixture, EssentQ®



- Synonyms: Coal oil
- CAS [ 64742-47-8]
- EINECS-No.: 926-141-6
- Density: 0,78 g/cm<sup>3</sup>
- Melting point: -49°C
- Boiling point: 175 - 270 °C
- Flash pt. 71 °C
- Vapour pressure: 0,03 a 0,06 kPa
- ADR: -
- IMDG: -

- IATA/ICAO: -
- GHS-signal word: Danger
- GHS-H sentences: H304 -
- GHS-P sentences: P103 - P101 - P301 + P310 - P331 - P405 - P501a
- Tariff number: 2710 19 25 00

refractive index n<sub>20</sub>/D ..... 1,441 - 1,451  
residue on ignition ..... max. 0,001 %  
water (K.F.) ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
KE01012500	2,5 l	0
KE0101005L	5 l	0
KE0101025L	25 l	1A

## KJELDAHL CATALYSTS

CA0394 Kjeldahl catalyst (Cu-Se), tablets 1 g



- GHS-signal word: Warning
- GHS-H sentences: H373 - H411 - H401
- GHS-P sentences: P260 - P273 - P270 - P304 + P340 - P312 - P501a
- Tariff number: 3815 90 90 90
- Applications: catalyst.

composition:  
potassium sulfate (K<sub>2</sub>SO<sub>4</sub>) ..... approx. 96,5 %  
copper (II) sulfate 5-hydrate ..... approx. 1,5 %  
selenium (Se) ..... approx. 2 %

ART. NO.	VOLUME	CONTAINER
CA03941000	1 kg	0

CA0393 Kjeldahl catalyst (Cu-Se), tablets 5 g



- GHS-signal word: Warning
- GHS-H sentences: H373 - H411 - H401
- GHS-P sentences: P260 - P273 - P270 - P304 + P340 - P312 - P501a
- Tariff number: 3815 90 90 90
- Applications: catalyst.

composition:  
potassium sulfate (K<sub>2</sub>SO<sub>4</sub>) ..... approx. 96,5 %  
copper (II) sulfate 5-hydrate ..... approx. 1,5 %  
selenium (Se) ..... approx. 2 %

ART. NO.	VOLUME	CONTAINER
CA03931000	1 kg	0
CA0393005P	5 kg	P

CA0396 Kjeldahl catalyst (Cu), tablets 4 g



- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-H sentences: H411
- GHS-P sentences: P273 - P391 - P501a

- Tariff number: 3822 00 00 00
- Applications: catalyst.

composition:  
potassium sulfate (K<sub>2</sub>SO<sub>4</sub>) ..... approx. 93,75 %  
copper (II) sulfate 5-hydrate ..... approx. 6,25 %

ART. NO.	VOLUME	CONTAINER
CA0396004P	4 kg	P

ME0680 Kjeldahl catalyst (Cu-Se), for quick determination of nitrogen, according to Wieninger

- Synonyms: Wieninger's reagent
- Solub. in water: (20 °C): partially soluble
- GHS-H sentences: H412
- GHS-P sentences: P273 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, nitrogen determinations.

assay of copper(II) sulfate (complexometric) ..... min. 1,45 %  
assay of selenium (gravimetric) ..... min. 1,5 %  
assay of sodium sulfate (acidimetric) ..... min. 94 %  
suitability for det. of total N ..... passes test

ART. NO.	VOLUME	CONTAINER
ME06801000	1 kg	0
ME0680005P	5 kg	P

## KOVACS' REAGENT

RE0007 Kovacs' reagent, for microbiology



- Density: 0,89 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 36 °C
- ADR: 3 F1 III UN 1993
- IMDG: 3 III UN 1993
- IATA/ICAO: 3 III UN 1993
- GHS-signal word: Warning
- GHS-H sentences: H226 - H302 - H315 - H319 - H335

- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: laboratory reagent, antibiotic.

composition:  
4-Dimethylamino benzaldehyde ..... 50 g  
isoamyl alcohol ..... 710 ml  
hydrochloric acid 37 % ..... 240 ml  
suitability for microbiology ..... passes test

ART. NO.	VOLUME	CONTAINER
RE0007G100	100 ml	0
RE00071000	1 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## LABORATORY ABSORBENTS

### AB0001 Chemispill® H+, absorbent and neutraliser for spilled acids, with indicator

- Solub. in water: (20 °C): miscible
  - ADR: -
  - IMDG: -
  - IATA/ICAO: -
  - GHS-signal word: Warning
  - GHS-H sentences: H315 - H319
  - GHS-P sentences: P264 - P280 - P305 + P351 + P338 - P332 + P313 - P362 + P364 - P337 + P313
  - Appearance: Pale yellow
- suitability for acid neutralisation. . . . . passes test

ART. NO.	VOLUME	CONTAINER
AB00012000	2 kg	
AB0001005P	5 kg	

### AB0002 Chemispill® Sorb, absorbent for spilled liquids

- CAS [61790-53-2]
  - EINECS-No.: 612-383-7
  - ADR: -
  - IMDG: -
  - IATA/ICAO: -
  - Appearance: White
- suitability for liquid absorption. . . . . passes test

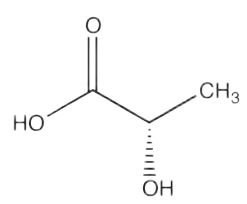
ART. NO.	VOLUME	CONTAINER
AB00020400	400 g	
AB00021000	1 kg	
AB00024000	4 kg	

### AB0003 Chemispill® OH-, absorbent and neutraliser for spilled alkalis, with indicator

- Solub. in water: (20 °C): miscible
  - ADR: -
  - IMDG: -
  - IATA/ICAO: -
  - GHS-signal word: Warning
  - GHS-H sentences: H319
  - GHS-P sentences: P264 - P280 - P305 + P351 + P338 - P337 + P313
  - Appearance: Pale red
- suitability for alkali neutralisation. . . . . passes test

ART. NO.	VOLUME	CONTAINER
AB00032000	2 kg	
AB0003005P	5 kg	

## L(+)-LACTIC ACID



- Synonyms: 2-Hydroxypropanoic acid, Lactol
- C<sub>3</sub>H<sub>5</sub>O<sub>3</sub>
- M = 90,08 g/mol
- CAS [79-33-4]
- EINECS-No.: 200-018-0
- Density: 1,21 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 18 °C
- Boiling point: (20 hPa) 122 °C
- Flash pt. 112 °C
- LD 50 (oral, rat): 3543 mg/kg (pure substance)
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2918 11 00 00
- Applications: in food industry.

### AC1380 L(+)-Lactic acid, 88 - 92%, extra pure, Pharmpur®, Ph Eur, BP

- assay (acidimetric) . . . . . 88 - 92 %  
 identification . . . . . passes test  
 density (20°/4°) . . . . . 1,20 - 1,21  
 appearance . . . . . passes test  
 ether-insoluble substances . . . . . passes test  
 citric, oxalic and phosphoric acids . . . . . passes test  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,02 %
- calcium (Ca) . . . . . max. 200 ppm  
 heavy metals (as Pb) . . . . . max. 0,001%  
 methanol . . . . . max. 0,005 %  
 sugars and other reducing substances . . . . . passes test  
 residue on ignition (600 °C) . . . . . max. 0,1 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC13801000	1 l	
AC1380005P	5 l	

### AC1381 L(+)-Lactic acid, 88- 90%, ExpertQ®, for analysis, ACS, Reag. Ph Eur

- assay (acidimetric) . . . . . min. 88 %  
 density (20°/4°) . . . . . 1,20 - 1,21  
 insoluble in C<sub>2</sub>H<sub>5</sub>OC<sub>2</sub>H<sub>5</sub> . . . . . passes test  
 aldehydes . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 arsenic (As) . . . . . max. 0,1 ppm
- copper (Cu) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 2 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 nickel (Ni) . . . . . max. 5 ppm  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AC13811000	1 l	

## LACTOPHENOL BLUE, SOLUTION

AZ0175 Lactophenol blue, solution for microscopy



- Density: 1,18 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 82 °C
- ADR: 6.1 TC1 II UN 2927
- IMDG: 6.1 II UN 2927
- IATA/ICAO: 6.1 II UN 2927
- GHS-signal word: Danger
- GHS-H sentences: H314 - H341 - H373 - H302 - H332
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 3822 00 00 00

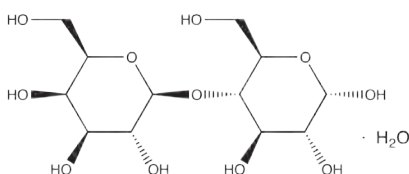
composition :

lactic acid 90 %	260 ml
phenol	260 g
glycerol	520 ml
cotton blue	0,4 g
distilled water	26 ml
suitability for microscopy	passes test

ART. NO.	VOLUME	CONTAINER
AZ0175G100	100 ml	

## D(+)-LACTOSE MONOHYDRATE

LA0060 D(+)-Lactose monohydrate, extra pure, Phampur®, Ph Eur, BP, NF



- Synonyms: Lactobiose, Milk sugar
- C<sub>12</sub>H<sub>22</sub>O<sub>11</sub>·H<sub>2</sub>O
- M = 360,32 g/mol
- CAS [10039-26-6]
- EINECS-No.: 200-559-2
- Solub. in water: (20 °C): freely soluble
- Melting point: 202 °C
- Tariff number: 1702 11 00 00
- Applications: analytical chemistry, synthesis of organic products, in food industry, for pharmaceutical use, in biochemistry, nutrient media for bacterial culture, in pharma industry.

identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 clarity and colour of solution . . . . . passes test  
 acidity or alkalinity . . . . . passes test  
 specific rotation ([α] 20°D, c = 10, NH<sub>3</sub> 6N, on dried sample) . . . . . + 54,4° - + 55,9°  
 proteins and light-absorbing impurities . . . . . passes test  
 microbial contamination . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (80 °C, 2 h) . . . . . max. 0,5 %  
 water (K.F.) . . . . . 4,5 - 5,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
LA00600500	500 g	
LA00601000	1 kg	
LA0060005P	5 kg	
LA0060025P	25 kg	

## LANTHANUM(III) CHLORIDE HEPTAHYDRATE

LA0090 Lanthanum(III) chloride heptahydrate, ExpertQ®, for analysis, ACS

- LaCl<sub>3</sub>·7H<sub>2</sub>O
- M = 371,37 g/mol
- CAS [10025-84-0]
- EINECS-No.: 233-237-5
- Solub. in water: (20 °C): soluble
- Melting point: 91 °C (release of crystalline water)
- LD 50 (oral, rat): 4184 mg/kg (anhydrous substance)
- Tariff number: 2846 90 00 00
- Applications: analytical chemistry, laboratory reagent, desiccant (painting), catalyst (in the petrochemical industry).

assay (gravimetric) . . . . . min. 98 %  
 identity . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 calcium (Ca) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 3 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 1 ppm  
 potassium (K) . . . . . max. 0,001 %  
 sodium (Na) . . . . . max. 0,005 %  
 zinc (Zn) . . . . . max. 3 ppm

ART. NO.	VOLUME	CONTAINER
LA00900100	100 g	
LA00900250	250 g	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## LANTHANUM(III) NITRATE HEXAHYDRATE

LA0100 Lanthanum(III) nitrate hexahydrate, ExpertQ®, for analysis



- $\text{La}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$
- $M = 433,02 \text{ g/mol}$
- CAS [10277-43-7]
- EINECS-No.: 233-238-0
- Solub. in water: (20 °C): soluble
- Melting point: 40 °C
- Boiling point: 126 °C (decomposes)
- ADR: 5.1 O2 II UN 1477
- IMDG: 5.1 II UN 1477
- IATA/ICAO: 5.1 II UN 1477
- GHS-signal word: Danger
- GHS-H sentences: H272 - H318
- GHS-P sentences: P221 - P210 - P220 - P280 - P305 + P351 + P338 - P501a
- Tariff number: 2846 90 00 00
- Applications: analytical chemistry, for biology, catalyst, in the electronic industry, stain for electron

microscopy, manufacture of glass, in the ceramics industry.

- Appearance: White crystals

assay (complexometric) . . . . . min. 99 %  
 insoluble in water . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,005 %  
 calcium (Ca) . . . . . max. 0,005 %  
 cerium (Ce) . . . . . max. 0,03 %  
 heavy metals (as Pb) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,002 %  
 magnesium (Mg) . . . . . max. 0,002 %  
 neodymium (Nd) . . . . . max. 0,02 %  
 praseodymium (Pr) . . . . . max. 0,02 %  
 sodium (Na) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
LA01000100	100 g	
LA01000250	250 g	

## LANTHANUM(III) OXIDE

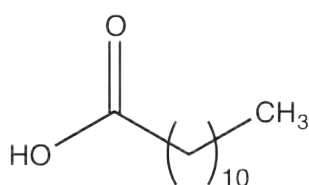
LA0110 Lanthanum(III) oxide, EssentQ®

- $\text{La}_2\text{O}_3$
- $M = 325,81 \text{ g/mol}$
- CAS [1312-81-8]
- EINECS-No.: 215-200-5
- Solub. in water: (20 °C): insoluble
- Melting point: 2315 °C
- Tariff number: 2846 90 00 00
- Applications: for spectroscopy, in the electronic industry, manufacture of glass, in the ceramics industry.

assay (complexometric) . . . . . min. 98 %  
 insoluble in  $\text{HNO}_3$  . . . . . max. 0,01 %  
 chlorides (Cl) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,005 %  
 nickel (Ni) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
LA01100100	100 g	
LA01100250	250 g	

## LAURIC ACID



- Synonyms: Dodecanoic acid
- $\text{C}_{12}\text{H}_{24}\text{O}_2$
- $M = 200,32 \text{ g/mol}$
- CAS [143-07-7]
- EINECS-No.: 205-582-1
- Solub. in water: (20 °C): insoluble
- Melting point: 42 - 45 °C
- Boiling point: (1,3 hPa) 131 °C
- Flash pt. 110 °C

- Vapour pressure: (20 °C) < 0,01 hPa
- LD 50 (oral, rat): 12000 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2915 90 10 00
- Applications: synthesis of organic products, in food industry, for pharmaceutical use.

AC1392 Lauric acid, EssentQ®



assay (G.C., as methyl ester) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AC13921000	1 kg	

ART. NO.	VOLUME	CONTAINER
AC1392005P	5 kg	

AC1395 Lauric acid, EssentQ®, Reag. Ph Eur

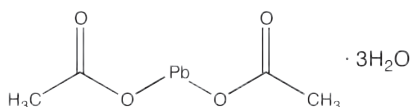


assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 melting range . . . . . 43 - 45 °C  
 iodine index . . . . . max. 0,5

saponifiable compounds . . . . . max. 0,5 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 1 ppm  
 residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AC13950100	100 g	

## LEAD(II) ACETATE TRIHYDRATE



- Synonyms: Acetic acid lead salt trihydrate
- $\text{Pb}(\text{CH}_3\text{COO})_2 \cdot 3\text{H}_2\text{O}$
- $M = 379,34 \text{ g/mol}$
- CAS [6080-56-4]
- EINECS-No.: 206-104-4
- Solub. in water: (20 °C): 410 g/l
- Melting point: 75 °C
- LD 50 (oral, rat): 4665 mg/kg
- EC-Index-No.: 082-005-00-8
- ADR: 6.1 T5 III UN 1616

- IMDG: 6.1 III UN 1616
- IATA/ICAO: 6.1 III UN 1616
- GHS-signal word: Danger
- GHS-H sentences: H360Df - H373 - H400 - H410
- GHS-P sentences: P260 - P281 - P273 - P308 + P313 - P405 - P501a
- Tariff number: 2915 29 00 90
- Applications: analytical chemistry, manufacture of dyes, stain for electron microscopy.
- Appearance: Colourless to white solid

### PL0114 Lead(II) acetate trihydrate, EssentQ®



assay (complexometric) . . . . . 99,5 - 102 %  
insoluble in  $\text{CH}_3\text{COOH}$ . . . . . max. 0,005 %  
chlorides (Cl) . . . . . max. 0,002 %  
copper (Cu) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,001 %  
silver (Ag) . . . . . max. 0,001 %  
zinc (Zn) . . . . . max. 0,005 %

alkali and alkaline earth metals . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
PL01140500	500 g	P
PL01141000	1 kg	P
PL0114005P	5 kg	P
PL0114025P	25 kg	P

### PL0115 Lead(II) acetate trihydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (complexometric) . . . . . 99,5 - 103,0 %  
insoluble in water. . . . . max. 0,01 %  
chlorides (Cl) . . . . . max. 0,0005 %  
nitrates and nitrites (as  $\text{NO}_2$ ) . . . . . max. 0,005 %  
total nitrogen (as N) . . . . . max. 0,001 %  
calcium (Ca) . . . . . max. 0,005 %  
cadmium (Cd) . . . . . max. 0,001 %

copper (Cu) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,001 %  
magnesium (Mg) . . . . . max. 0,005 %  
potassium (K) . . . . . max. 0,005 %  
sodium (Na) . . . . . max. 0,005 %  
zinc (Zn) . . . . . max. 5 ppm  
non precipitable with  $\text{H}_2\text{S}$  (as  $\text{SO}_3$ ) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
PL01150500	500 g	P
PL01151000	1 kg	P
PL0115005P	5 kg	P

## LEAD(II) CHLORIDE

### PL0120 Lead(II) chloride, EssentQ®



- $\text{PbCl}_2$
- $M = 278,10 \text{ g/mol}$
- CAS [7758-95-4]
- EINECS-No.: 231-845-5
- Solub. in water: (20 °C): 10 g/l
- Melting point: 500 °C
- Boiling point: 950 °C
- LD 50 (oral, rat): > 1947 mg/kg
- EC-Index-No.: 082-001-00-6
- ADR: 6.1 T5 III UN 2291
- IMDG: 6.1 III UN 2291

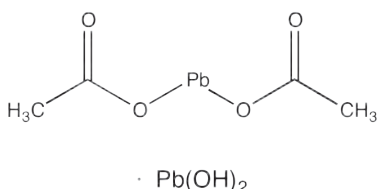
- IATA/ICAO: 6.1 III UN 2291
- GHS-signal word: Danger
- GHS-H sentences: H360Df - H373 - H400 - H410 - H302 - H332 - EUH201
- GHS-P sentences: P260 - P261 - P281 - P304 + P340 - P405 - P501a
- Tariff number: 2827 39 80 90
- Applications: synthesis of organic products, pigment, in solders, laboratory reagent.

assay (complexometric) . . . . . min. 99 %  
nitrates ( $\text{NO}_3$ ) . . . . . max. 0,01 %  
iron (Fe) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
PL01200500	500 g	P
PL01201000	1 kg	P

## LEAD(II) HYDROXIDE ACETATE

### PL0135 Lead(II) hydroxide acetate, ExpertQ®, for analysis, for determination of sugar according to Horne, ACS



- Synonyms: Horne's compound, Lead(II) acetate basic, Lead subacetate
- $\text{C}_4\text{H}_6\text{O}_8\text{Pb}_2$
- $M = 566,50 \text{ g/mol}$
- CAS [51404-69-4]
- EINECS-No.: 257-175-3
- Solub. in water: (20 °C): soluble
- EC-Index-No.: 082-001-00-6
- ADR: 6.1 T5 III UN 2291
- IMDG: 6.1 III UN 2291
- IATA/ICAO: 6.1 III UN 2291
- GHS-signal word: Danger
- GHS-H sentences: H360Df - H351 - H373 - H400 - H410
- GHS-P sentences: P260 - P281 - P273 - P308 + P313 - P405 - P501a
- Tariff number: 2915 29 00 90
- Applications: analytical chemistry, for determination of: sugars.

assay (PbO) . . . . . min. 33,0 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in diluted  $\text{CH}_3\text{COOH}$ . . . . . max. 0,02 %  
insoluble in water. . . . . max. 1,0 %  
chlorides (Cl) . . . . . max. 0,003 %  
nitrates ( $\text{NO}_3$ ) . . . . . max. 0,003 %  
calcium (Ca) . . . . . max. 0,01 %  
copper (Cu) . . . . . max. 0,002 %  
iron (Fe) . . . . . max. 0,002 %  
potassium (K) . . . . . max. 0,02 %  
sodium (Na) . . . . . max. 0,05 %  
loss on drying (105 °C). . . . . max. 1,0 %

ART. NO.	VOLUME	CONTAINER
PL0135005P	5 kg	P
PL0135025P	25 kg	P



## LEAD(II) NITRATE

PL0140 Lead(II) nitrate, ExpertQ®, for analysis, ACS



- $Pb(NO_3)_2$
- M = 331,21 g/mol
- CAS [10099-74-8]
- EINECS-No.: 233-245-9
- Solub. in water: (20 °C): 525 g/l
- Melting point: ~ 470 °C
- EC-Index-No.: 082-001-00-6
- ADR: 5.1 OT2 II UN 1469
- IMDG: 5.1 II UN 1469
- IATA/ICAO: 5.1 II UN 1469
- GHS-signal word: Danger
- GHS-H sentences: H302 + H332 - H360Df - H373 - H410
- GHS-P sentences: P260 - P261 - P281 - P304 + P340 - P405 - P501a
- Tariff number: 2834 29 20 00
- Applications: analytical chemistry, laboratory reagent, manufacture of dyes, in explosive compositions, photography, in the textile industry.
- Appearance: White solid

assay (complexometric) . . . . . min. 99,5 %  
 insoluble matter . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,0005 %  
 calcium (Ca) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
PL01400500	500 g	Ⓟ
PL01401000	1 kg	Ⓟ

## LEAD(II) NITRATE, VOLUMETRIC SOLUTIONS

PL0145 Lead(II) nitrate, solution 0,05 mol/l



- $Pb(NO_3)_2$
- M = 331,21 g/mol
- CAS [10099-74-8]
- EINECS-No.: 233-245-9
- EC-Index-No.: 082-001-00-6
- ADR: 6.1 T4 III UN 3287
- IMDG: 6.1 III UN 3287
- IATA/ICAO: 6.1 III UN 3287
- GHS-signal word: Danger
- GHS-H sentences: H360D - H373 - H412 - EUH201
- GHS-P sentences: P260 - P281 - P273 - P308 + P313 - P405 - P501a
- Tariff number: 2834 29 20 00
- Applications: analytical chemistry, laboratory reagent.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm$  0,001  
 1 ml = 0,01656 g  $Pb(NO_3)_2$   
 This volumetric solution was checked by means of potentiometric methods using an EDTA disodium salt standard solution, that was also checked against Scharlab's calcium carbonate volumetric standard. Scharlab's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PL01451000	1 l	Ⓟ

## LEAD(II) OXIDE

- Synonyms: Litharge
- $PbO$
- M = 223,19 g/mol
- CAS [1317-36-8]
- EINECS-No.: 215-267-0
- Solub. in water: (20 °C): 0,017 g/l
- Melting point: 890 °C
- Boiling point: 1470 °C
- LD 50 (oral, rat): > 10000 mg/kg
- EC-Index-No.: 082-001-00-6
- ADR: 6.1 T5 III UN 2291
- IMDG: 6.1 III UN 2291
- IATA/ICAO: 6.1 III UN 2291
- GHS-signal word: Danger
- GHS-H sentences: H360Df - H373 - H400 - H410 - H302 - H332 - EUH201
- GHS-P sentences: P260 - P261 - P281 - P304 + P340 - P405 - P501a
- Tariff number: 2824 10 00 00
- Applications: laboratory reagent, in building materials, in the ceramics industry, painting (in porcelain industry, in the ceramics industry), pigment (in the rubber industry).

PL0150 Lead(II) oxide, EssentQ®



assay (complexometric) . . . . . 99 - 100,5 %  
 insoluble in diluted  $CH_3COOH$  . . . . . max. 0,2 %  
 chlorides (Cl) . . . . . max. 0,05 %  
 nitrates ( $NO_3$ ) . . . . . max. 0,05 %  
 iron (Fe) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,005 %  
 silver (Ag) . . . . . max. 0,005 %  
 loss on calcination (700 °C) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
PL01500500	500 g	Ⓟ
PL01501000	1 kg	Ⓟ
PL0150005P	5 kg	Ⓟ
PL0150025P	25 kg	Ⓟ

PL0151 Lead(II) oxide, ExpertQ®, for analysis



assay (complexometric) . . . . . min. 99 %  
 insoluble in diluted  $CH_3COOH$  . . . . . max. 0,05 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 bismuth (Bi) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,002 %  
 silver (Ag) . . . . . max. 5 ppm  
 non precipitable with  $H_2S$  (as  $SO_3$ ) . . . . . max. 0,3 %  
 loss on calcination (700 °C) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
PL01510250	250 g	Ⓟ
PL01511000	1 kg	Ⓟ

## LEAD(II) SULFATE

PL0155 Lead(II) sulfate, EssentQ®



- PbSO<sub>4</sub>
- M = 303,25 g/mol
- CAS [7446-14-2]
- EINECS-No.: 231-198-9
- Solub. in water: (20 °C): 0,045 g/l
- Melting point: 1170 °C
- EC-Index-No.: 082-001-00-6
- ADR: 8 C2 II UN 1794
- IMDG: 8 II UN 1794
- IATA/ICAO: 8 II UN 1794

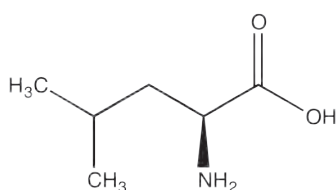
- GHS-signal word: Danger
- GHS-H sentences: H360Df - H373 - H400 - H410 - H302 - H332 - EUH201
- GHS-P sentences: P260 - P261 - P281 - P304 + P340 - P405 - P501a
- Tariff number: 2833 29 70 00
- Applications: analytical chemistry, pigment, electrolyte for batteries.

assay (complexometric) . . . . . min. 98 %  
insoluble in NH<sub>4</sub>CH<sub>3</sub>COO . . . . . max. 0,1 %  
chlorides (Cl) . . . . . max. 0,01 %  
iron (Fe) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
PL01550500	500 g	⊞

## L-LEUCINE

LE0055 L-Leucine, extra pure, Pharpur®, Ph Eur, BP, USP



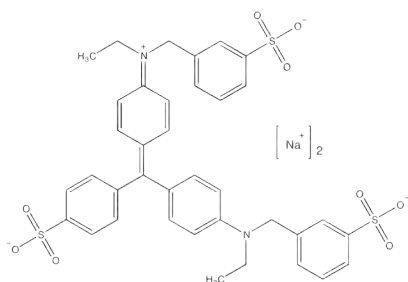
- Synonyms: 2-Amino-4-methylvaleric acid, α-Aminoisocaproic acid, 2-Amino-4-methylpentanoic acid
- C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub>
- M = 131,18 g/mol
- CAS [61-90-5]
- EINECS-No.: 200-522-0
- Solub. in water: (20 °C): 24 g/l
- Melting point: 300 °C (decomposes)
- Tariff number: 2922 49 95 90
- Applications: in biochemistry, in food industry, synthesis of organic products, in pharma industry.

assay (titr. with HClO<sub>4</sub>, referred to dried sample) . . . . . 98,5 - 101,0 %  
identification . . . . . passes test  
appearance of solution . . . . . passes test  
specific rotation ([α]<sub>D</sub><sup>20</sup>; c = 4, HCl 250 g/l) . . . . . +14,5° - +16,5°  
specific rotation ([α]<sub>D</sub><sup>25</sup>; c=4, HCl 6N) . . . . . + 14,9° - + 17,3°  
pH (1%, H<sub>2</sub>O) . . . . . 5,5 - 7,0  
chlorides (Cl) . . . . . max. 200 ppm  
sulfates (SO<sub>4</sub>) . . . . . max. 300 ppm  
ammonium (NH<sub>4</sub>) . . . . . max. 0,02 %  
iron (Fe) . . . . . max. 10 ppm  
ninhydrin-positive substances . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
loss on drying (105 °C) . . . . . max. 0,2 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
LE00550025	25 g	⊞
LE00550100	100 g	⊞

## LIGHT GREEN SF YELLOWISH, C.I. 42095

VE0160 Light green SF yellowish, C.I. 42095, for microscopy



- Synonyms: Acid green 5
- C<sub>27</sub>H<sub>34</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>9</sub>S<sub>3</sub>
- M = 792,86 g/mol
- CAS [5141-20-8]
- EINECS-No.: 225-906-5
- Solub. in water: (25 °C): 200 g/l
- Melting point: 288 °C
- LD 50 (oral, rat): > 2000 mg/kg
- Tariff number: 3204 19 00 90
- Applications: manufacture of dyes, for biology, microscopy.

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
VE01600025	25 g	⊞

## LITHIUM CARBONATE

LI0100 Lithium carbonate, ExpertQ®, for analysis, ACS, Reag. Ph Eur



- $\text{Li}_2\text{CO}_3$
- $M = 73,89 \text{ g/mol}$
- CAS [554-13-2]
- EINECS-No.: 209-062-5
- Solub. in water: (20 °C): 13 g/l
- Melting point: 720 °C
- LD 50 (oral, rat): 525 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302 - H319
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 2836 91 00 90
- Applications: analytical chemistry, in the production of enamels (in porcelain industry, in the electronic industry), for pharmaceutical use.

assay (acidimetric) . . . . . min. 99,0 %  
 insoluble in diluted HCl . . . . . max. 0,01 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 nitrates ( $\text{NO}_3$ ) . . . . . max. 0,0005 %  
 calcium (Ca) . . . . . max. 0,005 %  
 heavy metals . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %  
 magnesium (Mg) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,005 %  
 sulphur compounds (as  $\text{SO}_2$ ) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
LI01000250	250 g	
LI01000500	500 g	

## LITHIUM CHLORIDE

- LiCl
- $M = 42,39 \text{ g/mol}$
- CAS [7447-41-8]
- EINECS-No.: 231-212-3
- Solub. in water: (20 °C): 832 g/l
- Melting point: 614 °C

- Boiling point: 1360 °C
- Vapour pressure: (547 °C) 1,33 hPa
- LD 50 (oral, rat): 526 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P501a
- Tariff number: 2827 39 80 90
- Applications: analytical chemistry, in explosive compositions, in solders, for pharmaceutical use, laboratory reagent.

LI0110 Lithium chloride, EssentQ®



assay (argentometric) . . . . . min. 98 %  
 insoluble in water . . . . . max. 0,05 %  
 nitrogen compounds (as N) . . . . . max. 0,005 %  
 phosphates (as  $\text{PO}_4$ ) . . . . . max. 0,003 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,05 %  
 calcium (Ca) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 0,002 %

heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,002 %  
 nickel (Ni) . . . . . max. 0,002 %  
 potassium (K) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
LI01100100	100 g	
LI01100250	250 g	
LI01100500	500 g	
LI0110025P	25 kg	

LI0112 Lithium chloride, molecular biology grade



assay (argentometric) . . . . . min. 99 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,005 %

DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
LI01120250	250 g	
LI0112005P	5 kg	

## LITHIUM HYDROXIDE MONOHYDRATE

- $\text{LiOH} \cdot \text{H}_2\text{O}$
- $M = 41,96 \text{ g/mol}$
- CAS [1310-66-3]
- EINECS-No.: 215-183-4
- Solub. in water: (20 °C): 124 g/l
- Melting point: 462 °C

- Boiling point: 924 °C (decomposes)
- ADR: 8 C6 II UN 2680
- IMDG: 8 II UN 2680
- IATA/ICAO: 8 II UN 2680
- GHS-signal word: Danger
- GHS-H sentences: H314

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2825 20 00 00
- Applications: analytical chemistry, laboratory reagent, for determination of: aminoacids.

LI0140 Lithium hydroxide monohydrate, EssentQ®



assay (acidimetric, LiOH) . . . . . min. 56 %  
 identity (IR-spectrum) . . . . . passes test  
 heavy metals (as Pb) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
LI01400500	500 g	

ART. NO.	VOLUME	CONTAINER
LI01401000	1 kg	

LI0141 Lithium hydroxide monohydrate, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (acidimetric) . . . . . min. 98,0 %  
 identity (IR-spectrum) . . . . . passes test  
 assay of  $\text{Li}_2\text{CO}_3$  . . . . . max. 2,0 %  
 insoluble in water . . . . . max. 0,01 %

chlorides (Cl) . . . . . max. 0,01 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,05 %  
 heavy metals . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
LI01410250	250 g	

 A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## LITHIUM METABORATE

LI0090 Lithium metaborate, ExpertQ®, for analysis

- LiBO<sub>2</sub>
- M = 49,75 g/mol
- CAS [13453-69-5]
- EINECS-No.: 236-631-5
- Solub. in water: (20 °C): almost insoluble
- Melting point: ~ 840 °C
- Tariff number: 2840 20 90 00
- Applications: analytical chemistry, laboratory reagent, for spectroscopy.

assay (acidimetric) . . . . . min. 99 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 fluorides (F) . . . . . max. 0,005 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,005 %  
 silicates (SiO<sub>2</sub>) . . . . . max. 0,05 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 aluminium (Al) . . . . . max. 0,002 %  
 arsenic (As) . . . . . max. 2 ppm  
 barium (Ba) . . . . . max. 0,002 %  
 cadmium (Cd) . . . . . max. 5 ppm  
 calcium (Ca) . . . . . max. 0,005 %  
 chromium (Cr) . . . . . max. 5 ppm  
 cobalt (Co) . . . . . max. 2 ppm  
 copper (Cu) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 0,001 %

lead (Pb) . . . . . max. 2 ppm  
 magnesium (Mg) . . . . . max. 0,01 %  
 manganese (Mn) . . . . . max. 5 ppm  
 nickel (Ni) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,01 %  
 strontium (Sr) . . . . . max. 0,001 %  
 zinc (Zn) . . . . . max. 5 ppm  
 residue on ignition . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
LI00900100	100 g	Ⓟ
LI00900500	500 g	Ⓟ

## LITHIUM NITRATE

LI0175 Lithium nitrate, EssentQ® 

- Synonyms: Nitric acid lithium salt
- LiNO<sub>3</sub>
- M = 68,95 g/mol
- CAS [7790-69-4]
- EINECS-No.: 232-218-9
- Solub. in water: (20 °C): 522 g/l
- Melting point: 255 °C
- ADR: 5.1 O2 III UN 2722
- IMDG: 5.1 III UN 2722
- IATA/ICAO: 5.1 III UN 2722
- GHS-signal word: Warning
- GHS-H sentences: H272
- GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a
- Tariff number: 2834 29 80 00
- Applications: laboratory reagent, corrosion inhibitor.
- Appearance: White crystalline powder

assay (argentometric) . . . . . min. 98 %  
 insoluble in water . . . . . max. 0,05 %  
 carbonates (CO<sub>3</sub>) . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,05 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,005 %  
 calcium (Ca) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,005 %  
 nickel (Ni) . . . . . max. 0,005 %  
 potassium (K) . . . . . max. 0,02 %  
 sodium (Na) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
LI01750250	250 g	Ⓟ
LI01750500	500 g	Ⓟ
LI0175005P	5 kg	Ⓟ

## LITHIUM SULFATE MONOHYDRATE

LI0180 Lithium sulfate monohydrate, ExpertQ®, for analysis, ACS

- Li<sub>2</sub>SO<sub>4</sub>·H<sub>2</sub>O
- M = 127,96 g/mol
- CAS [10102-25-7]
- EINECS-No.: 233-820-4
- Solub. in water: (20 °C): 340 g/l
- Melting point: 120 °C
- Tariff number: 2833 29 90 00
- Applications: laboratory reagent, manufacture of glass, in building materials.

assay (acidimetric, on dried sample) . . . . . min. 99,0 %  
 insoluble in water . . . . . max. 0,01 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,05 %  
 sodium (Na) . . . . . max. 0,05 %  
 loss on drying (150 °C) . . . . . 13,0 - 15,0 %

ART. NO.	VOLUME	CONTAINER
LI01800250	250 g	Ⓟ
LI01800500	500 g	Ⓟ

## LITMUS, SOLUBLE

TO0280 Litmus, soluble, EssentQ®

- Synonyms: Lacmus, Tournesol, Lacca musica
- M = ~ 3300 g/mol
- CAS [1393-92-6]
- EINECS-No.: 215-739-6
- Solub. in water: (20 °C): soluble
- Tariff number: 3203 00 19 00

- Applications: indicator





pH range (red to blue) . . . . . 4,5 - 8,3

ART. NO.	VOLUME	CONTAINER
TO02800025	25 g	Ⓟ
TO02800250	250 g	Ⓟ

## LUGOL'S SOLUTION

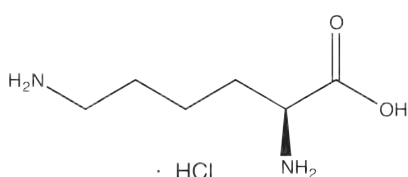
LU0010 Lugol's solution, for microscopy

- Synonyms: Iodine-potassium iodide solution suitability for microscopy . . . . . passes test
- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Boiling point: 100 °C
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent, for microbiology, bacterium staining.

ART. NO.	VOLUME	CONTAINER
LU0010G100	100 ml	
LU00100500	500 ml	
LU00101000	1 l	
LU00102500	2,5 l	


## L-LYSINE MONOHYDROCHLORIDE

LI0035 L-Lysine monohydrochloride, EssentQ®



- Synonyms: L-(+)-2,6-Diamino-N-caproic acid monohydrochloride
- C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>·HCl
- M = 182,65 g/mol
- CAS [657-27-2]
- EINECS-No.: 211-519-9
- Solub. in water: (20 °C): 420 g/l
- Melting point: 263 - 264 °C
- LD 50 (oral, rat): 10000 mg/kg
- Tariff number: 2922 41 00 00
- Applications: in biochemistry, in food industry, synthesis of organic products.

assay (titr. with HClO<sub>4</sub>) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 specific rotation ([α]<sub>D</sub><sup>20</sup>, c = 8, HCl 6 mol/l) . . . . . + 20,5° - + 21,5°  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 other ninhydrin positive substances (as glycine) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
LI00351000	1 kg	
LI0035005P	5 kg	

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## MAGNESIUM

MA0025 Magnesium, turnings, EssentQ®, according to Grignard



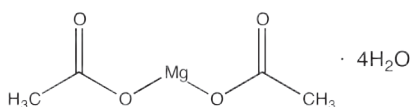
- Mg
- M = 24,31 g/mol
- CAS [7439-95-4]
- EINECS-No.: 231-104-6
- Solub. in water: (20 °C): insoluble
- Melting point: 651 °C
- Boiling point: 1107 °C
- Flash pt. 500 °C
- EC-Index-No.: 012-002-00-9
- ADR: 4.1 F3 III UN 1869

- IMDG: 4.1 III UN 1869
- IATA/ICAO: 4.1 III UN 1869
- GHS-signal word: Danger
- GHS-H sentences: H261
- GHS-P sentences: P231 + P232 - P280 - P233 - P402 + P404 - P501a
- Tariff number: 8104 90 00 90
- Appearance: Silvery solid

assay (complexometric) . . . . . min. 99,5 %  
insoluble in HCl . . . . . max. 0,01 %  
iron (Fe) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
MA00250100	100 g	Ⓟ
MA00250250	250 g	Ⓟ
MA00251000	1 kg	Ⓟ

## MAGNESIUM ACETATE TETRAHYDRATE



- Synonyms: Acetic acid magnesium salt tetrahydrate
- $Mg(CH_3COO)_2 \cdot 4H_2O$
- M = 214,46 g/mol
- CAS [16674-78-5]
- EINECS-No.: 205-554-9
- Solub. in water: (20 °C): soluble
- Melting point: 80 °C
- Tariff number: 2915 29 00 90

- Applications: analytical chemistry, in food industry.

MA0027 Magnesium acetate tetrahydrate, extra pure, Pharmpur®, Ph Eur, BP

assay (complexometric, on dried sample) . . . . . 98,0 - 101,0 %  
identification . . . . . passes test  
pH (5 %, H<sub>2</sub>O) . . . . . 7,5 - 8,5  
chlorides (Cl) . . . . . max. 330 ppm  
nitrates (NO<sub>3</sub>) . . . . . max. 3 ppm  
sulfates (SO<sub>4</sub>) . . . . . max. 600 ppm  
aluminium (Al) . . . . . max. 1 ppm  
calcium (Ca) . . . . . max. 100 ppm

potassium (K) . . . . . max. 0,1 %  
sodium (Na) . . . . . max. 0,5 %  
readily oxidisable substances . . . . . passes test  
water (K.F) . . . . . 33,0 - 35,0 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
MA00270500	500 g	Ⓟ
MA00271000	1 kg	Ⓟ

MA0028 Magnesium acetate tetrahydrate, ExpertQ®, for analysis, ACS

assay (complexometric) . . . . . 99,5 - 102,0 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,005 %  
chlorides (Cl) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
barium (Ba) . . . . . max. 0,001 %  
calcium (Ca) . . . . . max. 0,001 %  
copper (Cu) . . . . . max. 5 ppm

heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 1 ppm  
manganese (Mn) . . . . . max. 0,001 %  
potassium (K) . . . . . max. 0,005 %  
sodium (Na) . . . . . max. 0,001 %  
strontium (Sr) . . . . . max. 0,005 %  
zinc (Zn) . . . . . max. 2 ppm

ART. NO.	VOLUME	CONTAINER
MA00280500	500 g	Ⓟ
MA00281000	1 kg	Ⓟ

## MAGNESIUM CHLORIDE HEXAHYDRATE

- $MgCl_2 \cdot 6H_2O$
- M = 203,30 g/mol
- CAS [7791-18-6]
- EINECS-No.: 232-094-6

- Solub. in water: (20 °C): 1670 g/l
- Melting point: ~ 117 °C (decomposes)
- LD 50 (oral, rat): 8100 mg/kg
- Tariff number: 2827 31 00 00

- Applications: analytical chemistry, laboratory reagent, disinfectant. Extinguishant.

MA0035 Magnesium chloride hexahydrate, extra pure, Pharmpur®, Ph Eur, BP, USP

assay (complexometric) . . . . . 98,0 - 101,0 %  
identification . . . . . passes test  
appearance of solution (10 %, H<sub>2</sub>O) . . . . . clear and colourless  
pH (5 %, H<sub>2</sub>O) . . . . . 4,5 - 7,0  
insoluble in water . . . . . max. 0,005 %  
bromides (Br) . . . . . max. 500 ppm  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
arsenic (As) . . . . . max. 2 ppm



barium (Ba) . . . . . passes test  
calcium (Ca) . . . . . max. 0,01 %  
iron (Fe) . . . . . max. 10 ppm  
potassium (K) . . . . . passes test  
water . . . . . 51,0 - 55,0 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
MA00350250	250 g	Ⓟ
MA00350500	500 g	Ⓟ
MA00351000	1 kg	Ⓟ
MA0035005P	5 kg	Ⓟ
MA0035025P	25 kg	Ⓟ



## MA0036 Magnesium chloride hexahydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay (complexometric) . . . . .	99,0 - 101,0 %	barium (Ba) . . . . .	max. 0,002 %
identity . . . . .	.passes test	calcium (Ca) . . . . .	max. 0,003 %
appearance of solution . . . . .	clear and colourless	copper (Cu) . . . . .	max. 5 ppm
insoluble in water . . . . .	max. 0,005 %	heavy metals . . . . .	max. 5 ppm
pH (5 %, H <sub>2</sub> O) . . . . .	5,0 - 6,5	iron (Fe) . . . . .	max. 5 ppm
total nitrogen (as N) . . . . .	max. 0,002 %	lead (Pb) . . . . .	max. 5 ppm
bromides (Br) . . . . .	max. 500 ppm	manganese (Mn) . . . . .	max. 5 ppm
nitrates (NO <sub>3</sub> ) . . . . .	max. 0,001 %	potassium (K) . . . . .	max. 0,001 %
phosphates (as PO <sub>4</sub> ) . . . . .	max. 5 ppm	sodium (Na) . . . . .	max. 0,001 %
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,002 %	strontium (Sr) . . . . .	max. 0,005 %
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,002 %	water . . . . .	51,0 - 55,0 %
arsenic (As) . . . . .	max. 2 ppm		

ART. NO.	VOLUME	CONTAINER
MA00360250	250 g	
MA00360500	500 g	
MA00361000	1 kg	
MA0036005P	5 kg	

## MA0037 Magnesium chloride hexahydrate, molecular biology grade

assay (complexometric) . . . . .	min. 99 %	heavy metals . . . . .	max. 5 ppm
identity . . . . .	.passes test	iron (Fe) . . . . .	max. 5 ppm
pH (5 %, H <sub>2</sub> O) . . . . .	5,0 - 6,5	DNases, RNases, Proteases . . . . .	non detected

ART. NO.	VOLUME	CONTAINER
MA00370100	100 g	

## MAGNESIUM HYDROXIDE CARBONATE PENTAHYDRATE

## MA0055 Magnesium hydroxide carbonate pentahydrate, EssentQ®

<ul style="list-style-type: none"> <li>• Synonyms: Magnesium carbonate basic</li> <li>• ~ 4MgCO<sub>3</sub>·Mg(OH)<sub>2</sub>·5H<sub>2</sub>O</li> <li>• M = ~ 485 g/mol</li> <li>• CAS [12125-28-9]</li> <li>• EINECS-No.: 235-192-7</li> <li>• Solub. in water: (20 °C): insoluble</li> <li>• Melting point: 700 °C</li> <li>• Tariff number: 2836 99 11 00</li> </ul>	<ul style="list-style-type: none"> <li>• Applications: analytical chemistry, in buffer solutions, in food industry, thickener, cosmetics.</li> </ul>	assay (as MgO) . . . . . 40 - 45 % insoluble in H <sub>2</sub> SO <sub>4</sub> . . . . . max. 0,1 % chlorides (Cl) . . . . . max. 0,1 % sulphur compounds (as SO <sub>4</sub> ) . . . . . max. 0,2 %
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ART. NO.	VOLUME	CONTAINER
MA00551000	1 kg	

## MAGNESIUM NITRATE HEXAHYDRATE

<ul style="list-style-type: none"> <li>• Mg(NO<sub>3</sub>)<sub>2</sub>·6H<sub>2</sub>O</li> <li>• M = 256,41 g/mol</li> <li>• CAS [13446-18-9]</li> <li>• EINECS-No.: 233-826-7</li> <li>• Solub. in water: (20 °C): 1250 g/l</li> <li>• Melting point: ~ 89 - 95 °C (decomposes)</li> </ul>	<ul style="list-style-type: none"> <li>• LD 50 (oral, rat): 5440 mg/kg</li> <li>• ADR: 5.1 O2 III UN 1474</li> <li>• IMDG: 5.1 III UN 1474</li> <li>• IATA/ICAO: 5.1 III UN 1474</li> <li>• GHS-signal word: Danger</li> <li>• GHS-H sentences: H272</li> </ul>	<ul style="list-style-type: none"> <li>• GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a</li> <li>• Tariff number: 2834 29 80 00</li> <li>• Applications: analytical chemistry, laboratory reagent, oxidizing agent.</li> <li>• Appearance: White crystals</li> </ul>
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## MA0048 Magnesium nitrate hexahydrate, EssentQ®

assay (complexometric) . . . . .	min. 98 %	arsenic (As) . . . . .	max. 0,0001 %
insoluble in water . . . . .	max. 0,025 %	calcium (Ca) . . . . .	max. 0,05 %
pH (5 %, H <sub>2</sub> O) . . . . .	4,0 - 8,5	copper (Cu) . . . . .	max. 0,002 %
acidity (as HNO <sub>3</sub> ) . . . . .	max. 0,01 %	iron (Fe) . . . . .	max. 5 ppm
alkalinity (as MgO) . . . . .	max. 0,005 %	lead (Pb) . . . . .	max. 0,002 %
chlorides (Cl) . . . . .	max. 0,01 %	nickel (Ni) . . . . .	max. 0,002 %
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,01 %	potassium (K) . . . . .	max. 0,001 %
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,01 %	sodium (Na) . . . . .	max. 0,001 %

ART. NO.	VOLUME	CONTAINER
MA00480500	500 g	
MA00481000	1 kg	
MA0048005P	5 kg	

## MA0050 Magnesium nitrate hexahydrate, ExpertQ®, for analysis, ACS, Reag. Ph Eur

assay (complexometric) . . . . .	99 - 102 %	barium (Ba) . . . . .	max. 0,005 %
insoluble in water . . . . .	max. 0,005 %	calcium (Ca) . . . . .	max. 0,005 %
pH (5 %, H <sub>2</sub> O) . . . . .	5 - 8,2	heavy metals (as Pb) . . . . .	max. 5 ppm
chlorides (Cl) . . . . .	max. 0,001 %	iron (Fe) . . . . .	max. 5 ppm
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,0005 %	manganese (Mn) . . . . .	max. 5 ppm
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,002 %	potassium (K) . . . . .	max. 5 ppm
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,001 %	sodium (Na) . . . . .	max. 5 ppm
arsenic (As) . . . . .	max. 1 ppm	strontium (Sr) . . . . .	max. 0,005 %

ART. NO.	VOLUME	CONTAINER
MA00500500	500 g	
MA00501000	1 kg	
MA0050005P	5 kg	

## MAGNESIUM OXIDE

MA0060 Magnesium oxide, extra pure, Pharmpur®, Ph Eur, BP, USP

- Synonyms: Magnesia usta
- MgO
- M = 40,30 g/mol
- CAS [1309-48-4]
- EINECS-No.: 215-171-9
- Solub. in water: (20 °C): insoluble
- Melting point: ~ 2800 °C
- Boiling point: 3600 °C
- Tariff number: 2519 90 10 00
- Applications: in the ceramics industry, in optics, in building materials, in pharma industry.

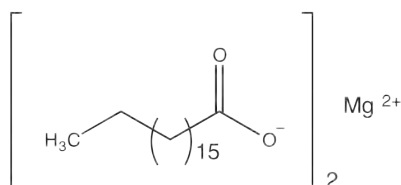
assay (complexometric, on ignited substance) . . . . . 98,0 - 100,5 %  
 appearance of solution . . . . . passes test  
 insoluble in CH<sub>3</sub>COOH. . . . . max. 0,1 %  
 acid-insoluble matter . . . . . max. 0,1 %  
 free alkali and soluble salts . . . . . max. 2,0 %  
 chlorides (Cl) . . . . . max. 0,15 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 1,0 %  
 arsenic (As) . . . . . max. 4 ppm  
 calcium (Ca) . . . . . max. 1,1 %  
 iron (Fe) . . . . . max. 0,1 %  
 residue on ignition (900 °C) . . . . . max. 8,0 %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
MA00600250	250 g	Ⓟ
MA00600500	500 g	Ⓟ
MA00601000	1 kg	Ⓟ
MA0060005P	5 kg	Ⓟ

## MAGNESIUM STEARATE

MA0040 Magnesium stearate, extra pure, Pharmpur®, Ph Eur, BP, NF



- Synonyms: Stearic acid magnesium salt
- C<sub>36</sub>H<sub>70</sub>MgO<sub>4</sub>
- M = 591,27 g/mol
- CAS [557-04-0]
- EINECS-No.: 209-150-3
- Solub. in water: (20 °C): insoluble
- Tariff number: 2915 70 30 00
- Applications: in the pharmaceuticals industry, desiccant (painting), emulsifier, in pharma industry.

assay of Mg (referred to dried sample) . . . . . 4,0 - 5,0 %  
 stearic acid (G.C.) . . . . . min. 40,0 %  
 sum of stearic acid and palmitic acidmin. . . . . 90,0 %  
 identification . . . . . passes test  
 acidity or alkalinity . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,1 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 1,0 %  
 cadmium (Cd) . . . . . max. 3 ppm  
 lead (Pb) . . . . . max. 10 ppm  
 nickel (Ni) . . . . . max. 5 ppm  
 loss on drying (105 °C) . . . . . max. 6,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
MA00401000	1 kg	Ⓟ

## MAGNESIUM SULFATE ANHYDROUS

- MgSO<sub>4</sub>
- M = 120,37 g/mol
- CAS [7487-88-9]
- EINECS-No.: 231-298-2

- Solub. in water: (20 °C): 269 g/l
- Melting point: 1124 °C
- Tariff number: 2833 21 00 00

- Applications: analytical chemistry, manufacture of dyes, in fertilizer compositions, in explosive compositions, cosmetics, desiccant.

MA0080 Magnesium sulfate anhydrous, EssentQ®

assay (complexometric) . . . . . min. 98 %  
 calcium sulfate (CaSO<sub>4</sub>) . . . . . max. 0,5 %  
 potassium chloride (KCl) . . . . . max. 0,1 %  
 potassium sulfate (K<sub>2</sub>SO<sub>4</sub>) . . . . . max. 0,6 %  
 sodium chloride (NaCl) . . . . . max. 0,1 %

iron (Fe) . . . . . max. 0,01 %  
 manganese (Mn) . . . . . max. 0,1 %  
 loss on ignition (600 °C) . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
MA00801000	1 kg	Ⓟ
MA0080005P	5 kg	Ⓟ
MA0080025P	25 kg	Ⓟ

MA0081 Magnesium sulfate anhydrous, suitable for QuEChERS

assay (complexometric) . . . . . min. 98 %  
 calcium sulfate (CaSO<sub>4</sub>) . . . . . max. 0,5 %  
 potassium chloride (KCl) . . . . . max. 0,1 %  
 potassium sulfate (K<sub>2</sub>SO<sub>4</sub>) . . . . . max. 0,6 %

sodium chloride (NaCl) . . . . . max. 0,1 %  
 iron (Fe) . . . . . max. 0,01 %  
 manganese (Mn) . . . . . max. 0,1 %  
 loss on ignition (600 °C) . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
MA0081025P	25 kg	Ⓟ

## MAGNESIUM SULFATE HEPTAHYDRATE

- Synonyms: Bitter salt, Epsom salt, Sulfuric acid magnesium salt heptahydrate
- MgSO<sub>4</sub>·7H<sub>2</sub>O
- M = 246,48 g/mol





- CAS [10034-99-8]
- EINECS-No.: 231-298-2
- Solub. in water: (20 °C): 710 g/l
- Tariff number: 2833 21 00 00

- Applications: analytical chemistry, manufacture of dyes, in fertilizer compositions, in explosive compositions, cosmetics.

## MA0084 Magnesium sulfate heptahydrate, extra pure, Pharmpur®, Ph Eur, BP, USP

assay (complexometric, referred to dried sample) ..... 99,0 - 100,5 %  
 assay (complexometric, on ignited substance) ..... 99,0 - 100,5 %  
 identification ..... passes test  
 appearance of solution ..... clear and colourless  
 pH (5 %, H<sub>2</sub>O) ..... 5,0 - 9,2  
 acidity or alkalinity ..... passes test  
 chlorides (Cl) ..... max. 0,014 %





arsenic (As) ..... max. 2 ppm  
 iron (Fe) ..... max. 20 ppm  
 selenium (Se) ..... max. 30 ppm  
 loss on drying ..... 48,0 - 52,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
MA00840500	500 g	
MA00841000	1 kg	
MA0084005P	5 kg	
MA0084025P	25 kg	

## MA0085 Magnesium sulfate heptahydrate, ExpertQ®, for analysis, ACS, Reag. Ph Eur

assay (complexometric, referred to dried sample) ..... 99,0 - 100,5 %  
 assay (complexometric) ..... 98,0 - 102,0 %  
 identity (IR-spectrum) ..... passes test  
 appearance of solution ..... clear and colourless  
 insoluble in water ..... max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) ..... 5,0 - 8,2  
 acidity or alkalinity ..... passes test  
 chlorides (Cl) ..... max. 3 ppm  
 nitrates (NO<sub>3</sub>) ..... max. 0,002 %  
 ammonium (NH<sub>4</sub>) ..... max. 0,002 %



arsenic (As) ..... max. 2 ppm  
 calcium (Ca) ..... max. 0,005 %  
 copper (Cu) ..... max. 1 ppm  
 heavy metals (as Pb) ..... max. 5 ppm  
 iron (Fe) ..... max. 1 ppm  
 lead (Pb) ..... max. 1 ppm  
 manganese (Mn) ..... max. 5 ppm  
 potassium (K) ..... max. 0,001 %  
 sodium (Na) ..... max. 0,001 %  
 strontium (Sr) ..... max. 0,005 %  
 loss on drying ..... 48,0 - 52,0 %

ART. NO.	VOLUME	CONTAINER
MA00850500	500 g	
MA00851000	1 kg	
MA0085005P	5 kg	
MA0085025P	25 kg	

## MA0086 Magnesium sulfate heptahydrate, molecular biology grade

assay (complexometric) ..... min. 99,5 %  
 identity (IR-spectrum) ..... passes test  
 pH (5 %, H<sub>2</sub>O) ..... 5,0 - 8,0  
 heavy metals (as Pb) ..... max. 5 ppm

iron (Fe) ..... max. 5 ppm  
 DNases, RNases, Proteases ..... passes test

ART. NO.	VOLUME	CONTAINER
MA00860100	100 g	
MA00860500	500 g	

## MAGNESIUM SULFATE, VOLUMETRIC SOLUTIONS

## MA0087 Magnesium sulfate, solution 0,01 mol/l

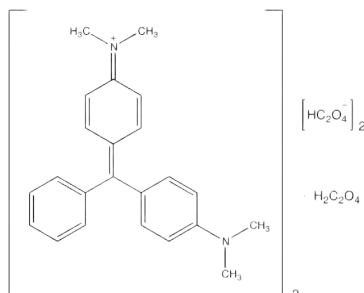
- MgSO<sub>4</sub>
- M = 120,37 g/mol
- CAS [7487-88-9]
- EINECS-No.: 231-298-2
- Density: ~ 1 g/cm<sup>3</sup>
- Tariff number: 2833 21 00 00
- Applications: analytical chemistry.

factor ..... 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,0012037 g MgSO<sub>4</sub>  
 This volumetric solution was checked by means of potentiometric methods using an EDTA disodium salt standard solution, that was also checked against Scharlau's calcium carbonate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
MA00871000	1 l	

## MALACHITE GREEN OXALATE, C.I. 42000

## VE0100 Malachite green oxalate, C.I. 42000, reagent and microscopy grade



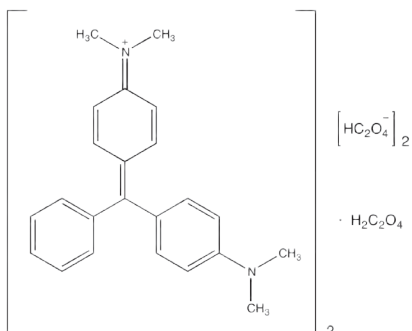
- Synonyms: Diamond green B
- C<sub>20</sub>H<sub>20</sub>O<sub>4</sub>N<sub>4</sub>·H<sub>2</sub>C<sub>2</sub>O<sub>4</sub>
- M = 927,02 g/mol
- CAS [2437-29-8]
- EINECS-No.: 219-441-7
- Solub. in water: (24 °C): 110 g/l
- Melting point: ~ 159 °C
- EC-Index-No.: 607-007-00-3
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H302 - H318 - H318d - H410 -
- GHS-P sentences: P280 - P281 - P305 + P351 + P338 - P310 - P405 - P501a
- Tariff number: 3204 13 00 90
- Applications: analytical chemistry, for microbiology, microscopy.
- Appearance: Green powder

identity ..... passes test  
 Absorption maximum λ (in H<sub>2</sub>O) ..... 616 - 620 nm  
 Absorptivity (A1%/1 cm; λ max; 0,003 g/λ, H<sub>2</sub>O) ..... 1730 - 1960  
 loss on drying (110 °C) ..... max. 7 %  
 TLC test ..... passes test

ART. NO.	VOLUME	CONTAINER
VE01000025	25 g	
VE01000100	100 g	
VE01001000	1 kg	

## MALACHITE GREEN OXALATE, SOLUTION

VE0101 Malachite green oxalate, solution for microscopy



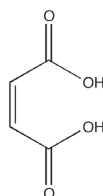
- $C_{20}H_{50}O_8N_2H_2C_2O_4$
- $M = 927,02 \text{ g/mol}$
- CAS [2437-29-8]
- EINECS-No.: 219-441-7
- Density:  $1,07 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- ADR: 9 M6 III UN 3082
- IMDG: 9 III UN 3082
- IATA/ICAO: 9 III UN 3082
- GHS-signal word: Danger
- GHS-H sentences: H318 - H361d - H411
- GHS-P sentences: P280 - P281 - P273 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00

composition :  
malachite green oxalate. .... 70 g  
distilled water. .... 1000 ml  
suitability for microscopy. .... passes test

ART. NO.	VOLUME	CONTAINER
VE0101G100	100 ml	0
VE01011000	1 l	0

## MALEIC ACID

AC1410 Maleic acid, extra pure, Pharmpur®, Ph Eur, BP



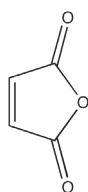
- Synonyms: cis-Butenedioic acid
- $C_4H_4O_4$
- $M = 116,07 \text{ g/mol}$
- CAS [110-16-7]
- EINECS-No.: 203-742-5
- Solub. in water: (25 °C): 788 g/l
- Melting point: 133 °C
- Boiling point: 135 °C (decomposes)
- Flash pt. 127 °C
- Vapour pressure: (20 °C) < 0,1 hPa
- LD 50 (oral, rat): 708 mg/kg
- EC-Index-No.: 607-095-00-3
- ADR: 8 C4 III UN 3261
- IMDG: 8 III UN 3261
- IATA/ICAO: 8 III UN 3261
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319 - H317 - H335 -
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2917 19 90 90
- Applications: synthesis of organic products, manufacturing of synthetic resins, for pharmaceutical use, manufacture of dyes, in pharma industry.

assay (acidimetric, referred to dried sample). .... 99,0 - 101,0 %  
identification ..... passes test  
appearance of solution ..... passes test  
clarity and colour of solution ..... passes test  
fumaric acid (TLC) ..... max. 1,5 %  
iron (Fe) ..... max. 5 ppm  
residue on ignition ..... max. 0,1 %  
water (K.F.) ..... max. 2,0 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC14100500	500 g	0
AC14101000	1 kg	0

## MALEIC ANHYDRIDE

AN0250 Maleic anhydride, EssentQ®



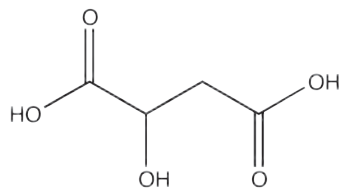
- Synonyms: 2,5-Furanedione
- $C_4H_2O_3$
- $M = 98,06 \text{ g/mol}$
- CAS [108-31-6]
- EINECS-No.: 203-571-6
- Solub. in water: (20 °C): hydrolysis reaction
- Melting point: 51 - 53 °C
- Boiling point: 200 °C
- Flash pt. 103 °C
- Ignition temp.: 475 °C
- Vapour pressure: (40 °C) 1,3 hPa
- LD 50 (oral, rat): 481 mg/kg
- EC-Index-No.: 607-096-00-9
- ADR: 8 C4 III UN 2215
- IMDG: 8 III UN 2215
- IATA/ICAO: 8 III UN 2215
- GHS-signal word: Danger
- GHS-H sentences: H334 - H314 - H302 - H317
- GHS-P sentences: P260 - P285 - P303 + P361 + P353 - P305 + P338 - P405 - P501a
- Tariff number: 2917 14 00 00
- Applications: synthesis of organic products, manufacture of dyes, for pharmaceutical use, in food industry, manufacturing of synthetic resins.

assay (morpholine method) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
residue on ignition ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AN02500500	500 g	0
AN02501000	1 kg	0

## DL-MALIC ACID

AC1420 DL-Malic acid, extra pure, Phampur®, Ph Eur, BP, NF



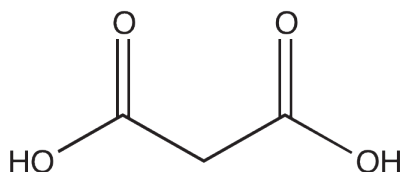
- Synonyms: DL-Hydroxysuccinic acid, DL-Malate
- $C_4H_6O_5$
- $M = 134,09$  g/mol
- CAS [6915-15-7]
- EINECS-No.: 230-022-8
- Solub. in water: (20 °C): ~ 530 g/l
- Melting point: 127-130 °C
- Boiling point: 150 °C (decomposes)
- Flash pt. 203 °C
- Ignition temp.: 349 °C
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2918 19 80 20
- Applications: in biochemistry, for pharmaceutical use, synthesis of organic products, in pharma industry.

assay (acidimetric, referred to dried sample) . . . . . 99,0 - 101,0 %  
 assay (acidimetric) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 water-insoluble substances . . . . . max. 0,1 %  
 specific rotation ( $[\alpha]_{20}^{20}$ ;  
 $c = 20, H_2O$ ) . . . . . - 0,10° - + 0,10°  
 related substances . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %  
 water (K.F.) . . . . . max. 2,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC14200500	500 g	Ⓟ
AC14201000	1 kg	Ⓟ

## MALONIC ACID

AC1430 Malonic acid, EssentQ®



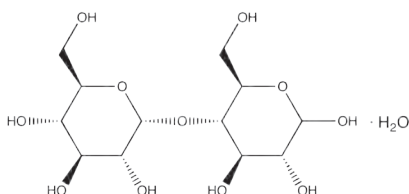
- Synonyms: 1,3-Propanedioic acid
- $C_3H_4O_4$
- $M = 104,06$  g/mol
- CAS [141-82-2]
- EINECS-No.: 205-503-0
- Solub. in water: (20 °C): 735 g/l
- Melting point: 136 °C
- Flash pt. 157 °C
- LD 50 (oral, rat): 1310 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302 - H319
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 2917 19 10 00
- Applications: synthesis of organic products, for pharmaceutical use.

assay (acidimetric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AC14300250	250 g	Ⓟ

## MALTOSE MONOHYDRATE

MA0100 Maltose monohydrate, for microbiology



- Synonyms: Maltobiose, 4-O- $\alpha$ -D-Glucopyranosyl-D-glucose
- $C_{12}H_{22}O_{11} \cdot H_2O$
- $M = 360,32$  g/mol
- CAS [6363-53-7]
- EINECS-No.: 200-716-5
- Solub. in water: (20 °C): 1080 g/l
- Melting point: 160 - 165 °C
- Tariff number: 1702 90 10 90

Assay (HPLC, referred to dried sample) . . . . . min. 92 %  
 appearance of solution . . . . . passes test  
 pH (10 %,  $H_2O$ ) . . . . . 4,0 - 6,5  
 heavy metals . . . . . max. 0,002 %  
 glucosemax. . . . . 3,0 %  
 residue on ignition . . . . . max. 0,1 %  
 water (K.F.) . . . . . 4,5 - 7,0 %

ART. NO.	VOLUME	CONTAINER
MA01000500	500 g	Ⓟ

## MANGANESE

MA0120 Manganese, powder, EssentQ®

- Mn
- $M = 54,94$  g/mol
- CAS [7439-96-5]
- EINECS-No.: 231-105-1
- Solub. in water: (20 °C): insoluble
- Melting point: 1260 °C
- Boiling point: 1900 °C

- LD 50 (oral, rat): 9000 mg/kg
- Tariff number: 8111 00 11 00
- Applications: laboratory reagent, synthesis of organic products, inorganic salts, metal alloys, in building materials.

assay (complexometric) . . . . . approx. 99 %

ART. NO.	VOLUME	CONTAINER
MA01200250	250 g	Ⓟ

## MANGANESE(II) CHLORIDE TETRAHYDRATE

MA0122 Manganese(II) chloride tetrahydrate, EssentQ®



- $MnCl_2 \cdot 4H_2O$
- M = 197,91 g/mol
- CAS [13446-34-9]
- EINECS-No.: 231-869-6
- Solub. in water: (20 °C): soluble
- Melting point: 58 °C
- LD 50 (oral, rat): 1484 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2827 39 85 90

- Applications: analytical chemistry, for determination of: dissolved oxygen.
- assay (complexometric) . . . . . 98 - 102 %
- insoluble in water . . . . . max. 0,025 %
- pH (5 %,  $H_2O$ ) . . . . . 3,5 - 6,0
- sulfates ( $SO_4$ ) . . . . . max. 0,025 %
- calcium (Ca) . . . . . max. 0,1 %
- heavy metals (as Pb) . . . . . max. 0,002 %
- iron (Fe) . . . . . max. 0,001 %
- lead (Pb) . . . . . max. 0,001 %
- nickel (Ni) . . . . . max. 0,005 %
- zinc (Zn) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
MA01220500	500 g	Ⓟ
MA01221000	1 kg	Ⓟ

## MANGANESE(II) NITRATE TETRAHYDRATE

MA0123 Manganese(II) nitrate tetrahydrate, ExpertQ®, for analysis



- $Mn(NO_3)_2 \cdot 4H_2O$
- M = 251,01 g/mol
- CAS [20694-39-7]
- EINECS-No.: 233-828-8
- Solub. in water: (20 °C): 3800 g/l
- Melting point: 37 °C
- ADR: 5.1 O2 III UN 2724
- IMDG: 5.1 III UN 2724
- IATA/ICAO: 5.1 III UN 2724
- GHS-signal word: Danger
- GHS-H sentences: H272
- GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a
- Tariff number: 2834 29 80 00
- Applications: analytical chemistry, laboratory reagent, for the synthesis of:  $MnO_2$ ; in porcelain industry.

- assay (complexometric) . . . . . min. 98,5 %
- pH (5 %,  $H_2O$ ) . . . . . 2,8 - 3,6
- chlorides (Cl) . . . . . max. 0,001 %
- sulfates ( $SO_4$ ) . . . . . max. 0,005 %
- ammonium ( $NH_4$ ) . . . . . max. 0,05 %
- calcium (Ca) . . . . . max. 0,001 %
- copper (Cu) . . . . . max. 5 ppm
- iron (Fe) . . . . . max. 5 ppm
- lead (Pb) . . . . . max. 0,001 %
- magnesium (Mg) . . . . . max. 0,005 %
- nickel (Ni) . . . . . max. 5 ppm
- potassium (K) . . . . . max. 0,005 %
- sodium (Na) . . . . . max. 0,005 %
- zinc (Zn) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
MA01230500	500 g	Ⓟ
MA01231000	1 kg	Ⓟ
MA0123005P	5 kg	Ⓟ

## MANGANESE(IV) OXIDE

- Synonyms: Manganese dioxide, Pyrolusite, Black manganese oxide, Manganese superoxide
- $MnO_2$
- M = 86,94 g/mol
- CAS [1313-13-9]
- EINECS-No.: 215-202-6
- Solub. in water: (20 °C): insoluble
- Melting point: 535 °C (decomposes)

- EC-Index-No.: 025-001-00-3
- ADR: 5.1 O2 II UN 1479
- IMDG: 5.1 II UN 1479
- IATA/ICAO: 5.1 II UN 1479
- GHS-signal word: Warning
- GHS-H sentences: H302 - H332
- GHS-P sentences: P261 - P264 - P270 - P304 + P340 - P330 - P501a

- Tariff number: 2820 10 00 90
- Applications: laboratory reagent, in building materials, oxidizing agent, electrolyte for batteries, manufacture of glass, painting (in porcelain industry), manufacture of dyes (in the textile industry), pigment.
- Appearance: Dark grey to black powder

MA0126 Manganese(IV) oxide, EssentQ®



assay (permanganometric) . . . . . approx. 90 %

ART. NO.	VOLUME	CONTAINER
MA01260500	500 g	Ⓟ
MA01261000	1 kg	Ⓟ

ART. NO.	VOLUME	CONTAINER
MA0126005P	5 kg	Ⓟ

MA0125 Manganese(IV) oxide, 90%, EssentQ®



assay (permanganometric) . . . . . approx. 90 %  
insoluble in HCl . . . . . max. 0,05 %  
chlorides (Cl) . . . . . max. 0,05 %  
sulfates ( $SO_4$ ) . . . . . max. 0,1 %

silicium dioxide ( $SiO_2$ ) . . . . . max. 3 %  
iron (Fe) . . . . . max. 1 %  
loss on drying (105 °C) . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
MA01250100	100 g	Ⓟ
MA01250500	500 g	Ⓟ

## MANGANESE(II) SULFATE MONOHYDRATE

- $MnSO_4 \cdot H_2O$
- M = 169,02 g/mol
- CAS [10034-96-5]
- EINECS-No.: 232-089-9
- Solub. in water: (20 °C): 762 g/l
- Melting point: 117 °C (decomposes)

- EC-Index-No.: 025-003-00-4
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning
- GHS-H sentences: H373 - H411

- GHS-P sentences: P260 - P273 - P314 - P391 - P501a
- Tariff number: 2833 29 90 00
- Applications: analytical chemistry, in porcelain industry.



## MA0130 Manganese(II) sulfate monohydrate, extra pure, Phampur®, Ph Eur, BP, USP



assay (complex, on ignited sample) . . . . . 99,0 - 101,0 %  
 assay (complexometric) . . . . . 98,0 - 102,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 chlorides (Cl) . . . . . max. 100 pp  
 iron (Fe) . . . . . max. 10 ppm  
 zinc (Zn) . . . . . max. 50 ppm

non precipitable with  $(\text{NH}_4)_2\text{S}$  . . . . . max. 0,5 %  
 residue on ignition (500 °C) . . . . . 10,0 - 12,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
MA01300500	500 g	
MA01301000	1 kg	
MA0130005P	5 kg	

## MA0131 Manganese(II) sulfate monohydrate, ExpertQ®, for analysis, ACS, Reag. Ph Eur

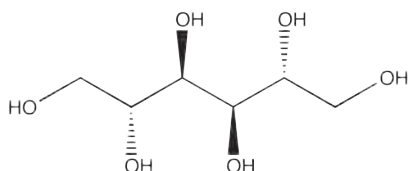


assay (complexometric) . . . . . 98,0 - 101,0 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %

lead (Pb) . . . . . max. 0,001 %  
 magnesium (Mg) . . . . . max. 0,005 %  
 nickel (Ni) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,005 %  
 zinc (Zn) . . . . . max. 0,005 %  
 substances reducing  $\text{KMnO}_4$  . . . . . passes test  
 residue on ignition (500°C) . . . . . 10,0 - 12,0 %

ART. NO.	VOLUME	CONTAINER
MA01310500	500 g	
MA01311000	1 kg	
MA0131005P	5 kg	
MA0131025P	25 kg	

## D(-)-MANNITOL



- Synonyms: Manna sugar
- $\text{C}_6\text{H}_{14}\text{O}_6$
- $M = 182,17 \text{ g/mol}$
- CAS [69-65-8]
- EINECS-No.: 200-711-8
- Solub. in water: (25 °C): 213 g/l
- Melting point: 165-169 °C
- Boiling point: (4 hPa) 290 - 295 °C

- LD 50 (oral, rat): 13500 mg/kg
- Tariff number: 2905 43 00 00
- Applications: analytical chemistry, manufacturing of synthetic resins, for pharmaceutical use, in food industry, for determination of: boric acid.

## MA0149 D(-)-Mannitol, extra pure, Phampur®, Ph Eur, BP, USP, JP

assay (HPLC, referred to dried sample) . . . . . 97,0 - 102,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 conductivity (25°C; 20%, in  $\text{H}_2\text{O}$ ) . . . . . max. 20  $\mu\text{S/cm}$   
 melting range . . . . . 165 - 170 °C  
 heavy metals . . . . . max. 5 ppm  
 nickel (Ni) . . . . . max. 1 ppm

related substances . . . . . passes test  
 reducing sugars (as glucose) . . . . . max. 0,1 %  
 loss on drying (105° C, 4h) . . . . . max. 0,5 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.

ART. NO.	VOLUME	CONTAINER
MA01490500	500 g	
MA01491000	1 kg	
MA0149005P	5 kg	

## MA0150 D(-)-Mannitol, ExpertQ®, for analysis, ACS, Reag. Ph Eur

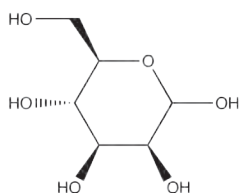
assay (HPLC, referred to dried sample) . . . . . 97,0 - 102,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 acidity . . . . . max. 0,0008 meq/g  
 conductivity (25°C; 20%, in  $\text{H}_2\text{O}$ ) . . . . . max. 20  $\mu\text{S/cm}$   
 specific rotation ( $[\alpha]_{25^\circ\text{C/D}}$ ,  $c = 10$ , in borax, 13 %) . . . . . + 23,3° - + 24,3°  
 melting range . . . . . 165 - 170 °C

heavy metals . . . . . max. 5 ppm  
 nickel (Ni) . . . . . max. 1 ppm  
 reducing sugars (as glucose) . . . . . max. 0,1 %  
 reducing sugars . . . . . passes test  
 related substances . . . . . passes test  
 residue on ignition . . . . . max. 0,01 %  
 loss on drying (105°C) . . . . . max. 0,05 %  
 loss on drying (105° C, 4h) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
MA01500500	500 g	
MA01501000	1 kg	
MA0150005P	5 kg	

## D(+)-MANNOSE

## MA0160 D(+)-Mannose, for biochemistry



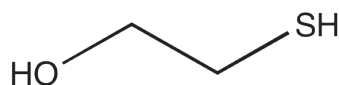
- $\text{C}_6\text{H}_{12}\text{O}_6$
- $M = 180,16 \text{ g/mol}$
- CAS [3458-28-4]
- EINECS-No.: 222-392-4
- Solub. in water: (20 °C): freely soluble
- Melting point: 133 °C
- Tariff number: 2940 00 00 10
- Applications: analytical chemistry, in biochemistry, in food industry, synthesis of organic products.

assay (HPLC) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 specific rotation ( $[\alpha]_{20^\circ\text{C/D}}$ ,  $c = 5$ ,  $\text{H}_2\text{O}$ ) . . . . . +13,8° - +14,4°  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
MA01600010	10 g	

## 2-MERCAPTOETHANOL

ME0095 2-Mercaptoethanol, molecular biology grade



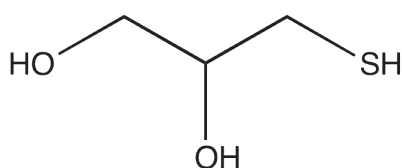
- Synonyms: Hydroxyethyl mercaptan, Thioethylene glycol, Thioglycol
- C<sub>2</sub>H<sub>6</sub>OS
- M = 78,13 g/mol
- CAS [60-24-2]
- EINECS-No.: 200-464-6
- Density: 1,12 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -100 °C
- Boiling point: 157 °C
- Flash pt. 68 °C
- Ignition temp.: 295 °C
- Vapour pressure: (20 °C) 1 hPa
- LD 50 (oral, rat): 244 mg/kg
- ADR: 6.1 T1 II UN 2966
- IMDG: 6.1 II UN 2966
- IATA/ICAO: 6.1 II UN 2966
- GHS-signal word: Danger
- GHS-H sentences: H301 - H310 - H314 - H411
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2930 90 99 99
- Applications: for microbiology, protector for carbonyl groups, for the synthesis of: sulfides.
- Appearance: Colourless liquid

assay (G.C.) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
heavy metals (as Pb) ..... max. 1 ppm  
water (K.F.) ..... max. 0,2 %  
DNases, RNases, Proteases ..... non detected

ART. NO.	VOLUME	CONTAINER
ME00950050	50 ml	0
ME00950250	250 ml	0

## 3-MERCAPTO-1,2-PROPANEDIOL

T10220 3-Mercapto-1,2-propanediol, min. 98%, ExpertQ®, for analysis



- Synonyms: α-Thioglycerol
- C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>S
- M = 108,16 g/mol
- CAS [96-27-5]
- EINECS-No.: 202-495-0
- Density: 1,25 g/cm<sup>3</sup>
- Solub. in water: (20 °C): sparingly miscible
- Boiling point: 118 °C
- Flash pt. 110 °C
- ADR: 6.1 T1 III
- UN 2810
- IMDG: 6.1 III UN 2810
- IATA/ICAO: 6.1 III UN 2810
- GHS-signal word: Danger
- GHS-H sentences: H302 + H332 - H311 - H315 - H319 - H317 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2930 90 99 99
- Applications: for pharmaceutical use.

assay (iodometric) ..... min. 98 %  
identity (IR-spectrum) ..... passes test  
heavy metals (as Pb) ..... max. 5 ppm  
iron (Fe) ..... max. 5 ppm  
residue on ignition ..... max. 0,05 %

ART. NO.	VOLUME	CONTAINER
T102202500	2,5 l	0

## MERCURY

ME0175 Mercury, metal, EssentQ®, washed, Reag. Ph Eur



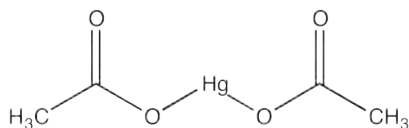
- Hg
- M = 200,59 g/mol
- CAS [7439-97-6]
- EINECS-No.: 231-106-7
- Density: 13,55 g/cm<sup>3</sup>
- Solub. in water: (25 °C): 0,0036 mg/l
- Melting point: -39 °C
- Boiling point: 357 °C
- Vapour pressure: (20 °C) 0,0017 hPa
- EC-Index-No.: 080-001-00-0
- ADR: 8 CT1 III UN 2809
- IMDG: 8 III UN 2809

- IATA/ICAO: 8 III UN 2809
- GHS-signal word: Danger
- GHS-H sentences: H330 - H360D - H372 - H400 - H410
- GHS-P sentences: P260 - P284 - P281 - P320 - P405 - P501a
- Tariff number: 2805 40 90 00
- Applications: in thermometers, catalyst (synthesis of organic products), inorganic salts, amalgams, for pharmaceutical use, for electroanalysis.

assay ..... min. 99,6 %  
insoluble in HNO<sub>3</sub> ..... max. 0,002 %  
heavy metals (as Pb) ..... max. 5 ppm  
iron (Fe) ..... max. 5 ppm  
loss on drying ..... max. 0,003 %

ART. NO.	VOLUME	CONTAINER
ME01750100	100 g	0
ME01750250	250 g	0
ME01751000	1 kg	0

## MERCURY(II) ACETATE



- Synonyms: Acetic acid mercury(II) salt, Mercuric salts
- $\text{Hg}(\text{CH}_3\text{COO})_2$
- $M = 318,68 \text{ g/mol}$
- CAS [1600-27-7]
- EINECS-No.: 216-491-1
- Solub. in water: (20 °C): 400 g/l
- Melting point: 178 - 180 °C
- LD 50 (oral, rat): 40,9 mg/kg
- EC-Index-No.: 080-002-00-6

- ADR: 6.1 T5 II UN 1629
- IMDG: 6.1 II UN 1629
- IATA/ICAO: 6.1 II UN 1629
- GHS-signal word: Danger
- GHS-H sentences: H300 - H310 - H330 - H373 - H400 - H410
- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a
- Tariff number: 2852 10 00 00
- Applications: for mercuration of organic compounds.

### ME0120 Mercury(II) acetate, EssentQ®



assay (complexometric) . . . . . min. 98,5 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble matter . . . . . max. 0,05 %  
 chlorides (Cl) . . . . . max. 0,025 %

sulfates ( $\text{SO}_4$ ) . . . . . max. 0,02 %  
 iron (Fe) . . . . . max. 0,005 %  
 mercury (I) (as Hg) . . . . . max. 0,5 %  
 residue after reduction . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ME01200100	100 g	
ME01200250	250 g	

### ME0121 Mercury(II) acetate, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (complexometric) . . . . . min. 99,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble matter . . . . . max. 0,01 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 nitrates ( $\text{NO}_3$ ) . . . . . max. 0,005 %

sulfates ( $\text{SO}_4$ ) . . . . . max. 0,005 %  
 other heavy metals (as Pb) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,001 %  
 mercury (I) (as Hg) . . . . . max. 0,3 %  
 residue after reduction . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
ME01210100	100 g	
ME01211000	1 kg	

## MERCURY(I) CHLORIDE

### ME0160 Mercury(I) chloride, EssentQ®



- Synonyms: Calomel, Mercurous salts
- $\text{Hg}_2\text{Cl}_2$
- $M = 472,09 \text{ g/mol}$
- CAS [10112-91-1]
- EINECS-No.: 233-307-5
- Solub. in water: (20 °C): 0,0023 g/l
- Vapour pressure: (120 °C) - 0,015 hPa
- LD 50 (oral, rat): 210 mg/kg
- EC-Index-No.: 080-003-00-1
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077

- GHS-signal word: Warning
- GHS-H sentences: H400 - H410 - H302 - H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2852 10 00 00
- Applications: laboratory reagent, in porcelain industry, electrolyte for batteries, fungicide, antiseptic.

assay (iodometric) . . . . . min. 99 %  
 residue on ignition . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
ME01600100	100 g	

## MERCURY(II) CHLORIDE

- $\text{HgCl}_2$
- $M = 271,50 \text{ g/mol}$
- CAS [7487-94-7]
- EINECS-No.: 231-299-8
- Solub. in water: (20 °C): 74 g/l
- Melting point: 280,7 °C
- Boiling point: 302 °C

- Vapour pressure: (20 °C) 0,0001 hPa
- LD 50 (oral, rat): 1 mg/kg
- EC-Index-No.: 080-010-00-X
- ADR: 6.1 T5 II UN 1624
- IMDG: 6.1 II UN 1624
- IATA/ICAO: 6.1 II UN 1624
- GHS-signal word: Danger

- GHS-H sentences: H300 - H372 - H341 - H361f - H314 - H400 - H410
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2852 10 00 00
- Applications: analytical chemistry, catalyst, synthesis of organic products.

### ME0169 Mercury(II) chloride, extra pure, Phampur®, Ph Eur, BP



assay (complexometric, referred to dried sample) . . . . . 99,5 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 acidity or alkalinity . . . . . passes test  
 mercury (I) chloride . . . . . passes test

loss on drying (at vacuum) . . . . . max. 1,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
ME01690100	100 g	
ME01690250	250 g	
ME01691000	1 kg	

ME0170 Mercury(II) chloride, ExpertQ®, for analysis, ACS, ISO



assay (complexometric) . . . . . min. 99,5 %  
 identity . . . . . passes test  
 appearance of solution . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 solution in ethyl ether . . . . . passes test  
 acidity or alkalinity . . . . . passes test  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
 total nitrogen (as N) . . . . . max. 0,002 %  
 calcium (Ca) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 0,001 %

iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,001 %  
 magnesium (Mg) . . . . . max. 0,001 %  
 mercury(I) chloride (Hg<sub>2</sub>Cl<sub>2</sub>) . . . . . max. 0,05 %  
 potassium (K) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,005 %  
 Residue after reduction  
 (calcination residue, as sulfate) . . . . . max. 0,02 %  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 loss on drying (on P<sub>2</sub>O<sub>5</sub>) . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
ME01700100	100 g	Ⓟ
ME01700250	250 g	Ⓟ
ME01701000	1 kg	Ⓟ

## MERCURY(II) IODIDE

ME0250 Mercury(II) iodide, red, ExpertQ®, for analysis, ACS



- Hg<sub>2</sub>
- M = 454,40 g/mol
- CAS [7774-29-0]
- EINECS-No.: 231-873-8
- Solub. in water: (25 °C): 0,06 g/l
- Melting point: 259 °C
- Boiling point: 354 °C
- Vapour pressure: (60 °C) ~ 0,001 hPa
- LD 50 (oral, rat): 18 mg/kg
- EC-Index-No.: 080-002-00-6
- ADR: 6.1 T5 II UN 1638

- IMDG: 6.1 II UN 1638
- IATA/ICAO: 6.1 II UN 1638
- GHS-signal word: Danger
- GHS-H sentences: H300 - H310 - H330 - H373 - H400 - H410
- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a
- Tariff number: 2852 10 00 00
- Applications: analytical chemistry, laboratory reagent.

assay (iodometric, on dried sample) . . . . . min. 99,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in a solution of KI . . . . . passes test  
 soluble mercury salts (as Hg) . . . . . max. 0,05 %  
 mercury (I) (as Hg) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
ME02500050	50 g	Ⓟ
ME02500250	250 g	Ⓟ
ME02501000	1 kg	Ⓟ

## MERCURY(I) NITRATE DIHYDRATE

ME0193 Mercury(I) nitrate dihydrate, ExpertQ®, for analysis



- Hg<sub>2</sub>(NO<sub>3</sub>)<sub>2</sub>·2H<sub>2</sub>O
- M = 561,22 g/mol
- CAS [7782-86-7]
- EINECS-No.: 638-745-4
- Solub. in water: (20 °C): 20 g/l
- Melting point: 70 °C (decomposes)
- EC-Index-No.: 080-002-00-6
- ADR: 6.1 T5 II UN 1627
- IMDG: 6.1 II UN 1627
- IATA/ICAO: 6.1 II UN 1627
- GHS-signal word: Danger
- GHS-H sentences: H300 - H310 - H330 - H373 - H400 - H410

- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a
- Tariff number: 2852 10 00 00
- Applications: analytical chemistry, laboratory reagent, inorganic salts.

assay (iodometric) . . . . . min. 97 %  
 insoluble in HNO<sub>3</sub> . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,001 %  
 other heavy metals (as Pb) . . . . . max. 0,002 %  
 mercury(II) (as Hg) . . . . . max. 0,5 %  
 Residue after reduction  
 (calcination residue, as sulfate) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ME01930100	100 g	Ⓟ

## MERCURY(II) NITRATE MONOHYDRATE

ME0195 Mercury(II) nitrate monohydrate, ExpertQ®, for analysis, Reag. Ph Eur



- Synonyms: Mercuric nitrate, Mercury pernitrate
- Hg(NO<sub>3</sub>)<sub>2</sub>·H<sub>2</sub>O
- M = 342,62 g/mol
- CAS [7783-34-8]
- EINECS-No.: 233-152-3
- Solub. in water: (20 °C): hydrolysis reaction
- Melting point: 79 °C (anhydrous substance)
- LD 50 (oral, rat): 26 mg/l (anhydrous substance)
- EC-Index-No.: 080-002-00-6
- ADR: 6.1 T5 II UN 1625
- IMDG: 6.1 II UN 1625
- IATA/ICAO: 6.1 II UN 1625
- GHS-signal word: Danger

- GHS-H sentences: H300 - H310 - H330 - H373 - H400 - H410
- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a
- Tariff number: 2852 10 00 00
- Applications: analytical chemistry, laboratory reagent, in pesticide compositions.

assay (complexometric) . . . . . min. 99 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,005 %  
 residue after reduction . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ME01950100	100 g	Ⓟ
ME01950250	250 g	Ⓟ

## MERCURY(II) NITRATE, VOLUMETRIC SOLUTIONS

ME0197 Mercury(II) nitrate, solution 0,01 mol/l (0,02 N)



- $\text{Hg}(\text{NO}_3)_2$
- $M = 324,62 \text{ g/mol}$
- CAS [10045-94-0]
- EINECS-No.: 233-152-3
- Density:  $1,007 \text{ g/cm}^3$
- EC-Index-No.: 080-002-00-6
- ADR: 6.1 T4 III UN 2024
- IMDG: 6.1 III UN 2024
- IATA/ICAO: 6.1 III UN 2024
- GHS-signal word: Warning
- GHS-H sentences: H373 - H302 - H312 - H412
- GHS-P sentences: P260 - P280 - P273 - P322 - P363 - P501a

- Tariff number: 2852 10 00 00
  - Applications: analytical chemistry, laboratory reagent, factor . . . . . 0,999 - 1,001 uncertainty  $\pm 0,001$   
1 ml = 0,003246 g  $\text{Hg}(\text{NO}_3)_2$
- This volumetric solution was checked by means of classical methods using an EDTA disodium salt standard solution, that was also checked against Scharlab's calcium carbonate volumetric standard. Scharlab's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
ME01971000	1 l	

## MERCURY(II) OXIDE RED

- $\text{HgO}$
- $M = 216,59 \text{ g/mol}$
- CAS [21908-53-2]
- EINECS-No.: 244-654-7
- Solub. in water: (25 °C): 0,052 g/l
- Melting point: > 400 °C (decomposes)

- Vapour pressure: (20 °C) 0,0012 hPa
- LD 50 (oral, rat): 18 mg/kg
- EC-Index-No.: 080-002-00-6
- ADR: 6.1 T5 II UN 1641
- IMDG: 6.1 II UN 1641
- IATA/ICAO: 6.1 II UN 1641

- GHS-signal word: Danger
- GHS-H sentences: H300 - H310 - H330 - H373 - H400 - H410
- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a
- Tariff number: 2852 10 00 00

ME0214 Mercury(II) oxide, red, EssentQ®



assay (complexometric) . . . . . min. 99 %  
identification . . . . . passes test  
appearance of solution . . . . . passes test  
insoluble in HCl . . . . . max. 0,05 %  
acidic or alkaline substances . . . . . passes test  
chlorides (Cl) . . . . . max. 0,05 %

nitrate ( $\text{NO}_3$ ) . . . . . passes test  
mercury (II) oxide, yellow . . . . . passes test  
Residue after reduction  
(calcination residue, as sulfate) . . . . . max. 0,05 %  
loss on drying (105 °C) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
ME02140100	100 g	
ME02140250	250 g	

ME0215 Mercury(II) oxide, red, ExpertQ®, for analysis, ACS



assay (complexometric) . . . . . min. 99 %  
insoluble in diluted HCl . . . . . max. 0,03 %  
chlorides (Cl) . . . . . max. 0,025 %  
sulfates ( $\text{SO}_4$ ) . . . . . max. 0,005 %  
total nitrogen (as N) . . . . . max. 0,005 %  
cadmium (Cd) . . . . . max. 1 ppm

copper (Cu) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 0,005 %  
lead (Pb) . . . . . max. 5 ppm  
zinc (Zn) . . . . . max. 5 ppm  
Residue after reduction  
(calcination residue, as sulfate) . . . . . max. 0,025 %

ART. NO.	VOLUME	CONTAINER
ME02150050	50 g	
ME02150100	100 g	
ME02150250	250 g	

## MERCURY(II) OXIDE YELLOW

ME0213 Mercury(II) oxide, yellow, ExpertQ®, for analysis, ACS, Reag. Ph Eur



- $\text{HgO}$
- $M = 216,59 \text{ g/mol}$
- CAS [21908-53-2]
- EINECS-No.: 244-654-7
- Solub. in water: (25 °C): 0,052 g/l
- Melting point: > 400 °C (decomposes)
- Vapour pressure: (20 °C) 0,0012 hPa
- LD 50 (oral, rat): 18 mg/kg
- EC-Index-No.: 080-002-00-6
- ADR: 6.1 T5 II UN 1641
- IMDG: 6.1 II UN 1641
- IATA/ICAO: 6.1 II UN 1641
- GHS-signal word: Danger

- GHS-H sentences: H300 - H310 - H330 - H373 - H400 - H410
- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a
- Tariff number: 2852 10 00 00
- Applications: analytical chemistry, laboratory reagent, catalyst (synthesis of organic products), painting, pigment (in porcelain industry), for determination of: nitrogen (Kjeldahl).

assay (complexometric) . . . . . min. 99,0 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in HCl . . . . . max. 0,03 %  
chlorides (Cl) . . . . . max. 0,025 %  
sulfates ( $\text{SO}_4$ ) . . . . . max. 0,01 %  
nitrogen compounds (as N) . . . . . max. 0,005 %  
cadmium (Cd) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,003 %  
residue after reduction . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ME02130100	100 g	

## MERCURY(II) SULFATE

- Synonyms: Mercury bisulfate
- $\text{HgSO}_4$
- $M = 296,65 \text{ g/mol}$
- CAS [7783-35-9]
- EINECS-No.: 231-992-5
- Solub. in water: (20 °C): hydrolysis reaction
- Ignition temp.: > 450 °C

- LD 50 (oral, rat): 57 mg/kg
- EC-Index-No.: 080-002-00-6
- ADR: 6.1 T5 II UN 1645
- IMDG: 6.1 II UN 1645
- IATA/ICAO: 6.1 II UN 1645
- GHS-signal word: Danger

- GHS-H sentences: H300 - H310 - H330 - H373 - H400 - H410
- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a
- Tariff number: 2852 10 00 00
- Applications: analytical chemistry, laboratory reagent, electrolyte for batteries.

ME0226 Mercury(II) sulfate, EssentQ®



assay (complexometric) . . . . . min. 99 %  
 identification . . . . . passes test  
 insoluble in H<sub>2</sub>SO<sub>4</sub> . . . . . max. 0,01 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,005 %

mercury (I) (as Hg) . . . . . max. 0,2 %  
 nickel (Ni) . . . . . max. 0,005 %  
 Residue after reduction  
 (calcination residue, as sulfate) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
ME02260100	100 g	
ME02260250	250 g	
ME02261000	1 kg	
ME0226005P	5 kg	

ME0227 Mercury(II) sulfate, ExpertQ®, for analysis, ACS



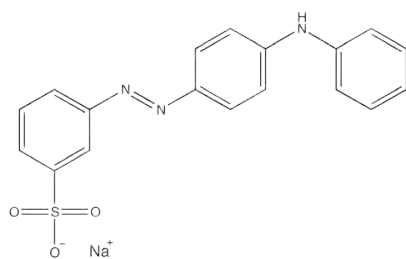
assay (complexometric) . . . . . min. 99 %  
 chlorides (Cl) . . . . . max. 0,003 %  
 nitrates (NO<sub>3</sub>) . . . . . passes test  
 cadmium (Cd) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,003 %  
 copper (Cu) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,003 %

lead (Pb) . . . . . max. 0,001 %  
 mercury (I) (as Hg) . . . . . max. 0,15 %  
 nickel (Ni) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,002 %  
 zinc (Zn) . . . . . max. 0,001 %  
 Residue after reduction . . . . . max. 0,02 %  
 suitability for COD . . . . . passes test

ART. NO.	VOLUME	CONTAINER
ME02270100	100 g	
ME02270250	250 g	
ME02271000	1 kg	
ME0227005P	5 kg	

## METANIL YELLOW, C.I. 13065

AM0055 Metanil yellow, C.I. 13065, indicator

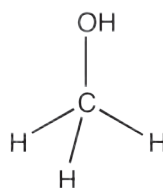


- Synonyms: 3-(4-Anilinophenylazo)benzenesulfonate acid sodium salt, Acid yellow 36
- C<sub>18</sub>H<sub>14</sub>N<sub>2</sub>NaO<sub>3</sub>S
- M = 375,38 g/mol
- CAS [587-98-4]
- EINECS-No.: 209-608-2
- Solub. in water: (20 °C): soluble
- LD 50 (oral, rat): 5000 mg/kg
- GHS-signal word: Danger
- GHS-H sentences: H318 - H312 - H332
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P322 - P304 + P340 - P501a
- Tariff number: 2927 00 00 90
- Applications: analytical chemistry, indicator.

pH range (red to yellow) . . . . . 1,2 - 2,8

ART. NO.	VOLUME	CONTAINER
AM00550025	25 g	

## METHANOL



- Synonyms: Methyl alcohol, Carbinol, Methynol, Wood alcohol
- CH<sub>3</sub>OH
- M = 32,04 g/mol
- CAS [67-56-1]
- EINECS-No.: 200-659-6
- Density: 0,792 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -98 °C
- Boiling point: 65 °C
- Flash pt. 10 °C
- Ignition temp.: 455 °C
- Vapour pressure: (20 °C) 128 hPa
- Refraction index: (n 20 °C/D) 1,3288
- Dielectric const.: (25 °C) 32,6

- LD 50 (oral, rat): 5628 mg/kg
- EC-Index-No.: 603-001-00-X
- ADR: 3 FT1 II UN 1230
- IMDG: 3 II UN 1230
- IATA/ICAO: 3 II UN 1230
- GHS-signal word: Danger
- GHS-H sentences: H225 - H301 - H311 - H331 - H370
- GHS-P sentences: P210 - P240 - P241 - P243 - P280 - P303 + P361 + P353 - P361 - P405 - P501a
- Tariff number: 2905 11 00 10
- Applications: solvents, synthesis of organic products, in antifreeze compositions, solvent for animal and vegetable oils extractions.
- Appearance: Incoloro

ME0301 Methanol, extra pure, Phampur®, Ph Eur, BP, NF



assay (G.C.) . . . . . min. 99,5 %  
 identification . . . . . passes test  
 appearance . . . . . clear and colourless  
 density (20°/20°) . . . . . 0,791 - 0,793  
 acidity or alkalinity . . . . . passes test  
 acidity . . . . . passes test  
 Alkalinity (as NH<sub>3</sub>) . . . . . max. 3 ppm  
 aldehydes and ketones (as C<sub>2</sub>H<sub>5</sub>CHO) . . . . . max. 0,003 %  
 benzene . . . . . max. 2 ppm  
 readily oxidisable substances . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 related substances . . . . . passes test

residue on evaporation . . . . . max. 10 ppm  
 water (K.F.) . . . . . max. 0,10 %  
 max. absorbance in a 1,0 cm cell at  
 wavelength . . . . . A (AU)  
 290 nm . . . . . 0,01 AU  
 270 nm . . . . . 0,02 AU  
 250 nm . . . . . 0,05 AU  
 230 nm . . . . . 0,15 AU  
 Elemental impurities are analysed according to guideline  
 CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline  
 CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
ME03011000	1 l	
ME03012500	2,5 l	
ME0301005L	5 l	
ME0301005P	5 l	
ME0301025P	25 l	
ME0301025S	25 l	
ME0301030S	30 l	



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## ME0302 Methanol, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 0,791 - 0,793  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 boiling point . . . . . 64 - 65°C  
 solubility in water . . . . . passes test  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 chlorides (Cl) . . . . . max. 0,5 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 1 ppm  
 aluminium (Al) . . . . . max. 0,5 ppm  
 arsenic (As) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,02 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 gallium (Ga) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max. 0,02 ppm

indium (In) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 lithium (Li) . . . . . max. 0,05 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,05 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 aldehydes and ketones (as C<sub>2</sub>H<sub>5</sub>CHO) . . . . . max. 0,001 %  
 carbonyl compounds (as CO) . . . . . max. 0,001 %  
 carbonyl compounds . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 5 ppm  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ME03021000	1 l	
ME03022500	2,5 l	
ME03024000	4 l	
ME0302005P	5 l	
ME0302005L	5 l	
ME0302007E	7 l	
ME0302025P	25 l	
ME0302025S	25 l	
ME0302030S	30 l	
ME0302200E	200 l	
ME0302200L	200 l	

## ME0337 Methanol, HPLC grade



assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density . . . . . max. 0,0003 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 acetaldehyde (CH<sub>3</sub>CHO) . . . . . max. 0,001 %  
 acetone (G.C.) . . . . . max. 0,001 %  
 formaldehyde . . . . . max. 0,001 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 substances reducing KMnO<sub>4</sub> . . . . . passes test

residue on evaporation . . . . . max. 0,0002 %  
 water (K.F.) . . . . . max. 0,05 %  
 max. absorbance in a 1,0 cm cell at  
 wavelength . . . . . A (AU)  
 400 - 254 nm . . . . . 0,01  
 225 nm . . . . . 0,2  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
ME03374000	4 l	
ME03372500	2,5 l	

## ME0315 Methanol, Multisolvant® HPLC grade ACS ISO UV-VIS K.F.



assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 0,791 - 0,793  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 boiling point . . . . . 64 - 65°C  
 solubility in water . . . . . passes test  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 chlorides (Cl) . . . . . max. 0,5 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 1 ppm  
 aluminium (Al) . . . . . max. 0,1 ppm  
 arsenic (As) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,02 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 gallium (Ga) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max. 0,02 ppm  
 indium (In) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 lithium (Li) . . . . . max. 0,05 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm

molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,05 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 carbonyl compounds (as CO) . . . . . max. 0,001 %  
 carbonyl compounds . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 2 ppm  
 water (K.F.) . . . . . max. 0,03 %  
 liquid chromatography suitability  
 absorbance . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength . . . . . T(%) A (AU)  
 207 nm . . . . . 10 % 1,00 AU  
 210 nm . . . . . 20 % 0,70 AU  
 220 nm . . . . . 50 % 0,30 AU  
 225 nm . . . . . 68 % 0,17 AU  
 230 nm . . . . . 74 % 0,13 AU  
 240 nm . . . . . 80 % 0,10 AU  
 250 nm . . . . . 96 % 0,02 AU  
 260 - 400 nm . . . . . 98 % 0,01 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
ME03151000	1 l	
ME03152500	2,5 l	
ME03154000	4 l	
ME0315007E	7 l	
ME0315025S	25 l	
ME0315030S	30 l	
ME0315100S	100 l	
ME0315185E	185 l	

ME0306 Methanol, supragradient HPLC grade



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,790 - 0,792  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,02 %  
min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A (AU)  
215 nm . . . . . 50 % 0,301 AU  
240 nm . . . . . 90 % 0,046 AU  
260 nm . . . . . 98 % 0,010 AU

gradient grade (235 nm)  
maximum background absorbance: 0,015 AU  
maximum peak absorbance: 0,0015 AU  
fluorescence analysis: maximum absorbance: 1 ppb  
as quinine (in 0,1 N sulfuric acid), for the spectra  
recorded at the following conditions: EX wavelength  
between 220 and 450 EM wavelength between 250  
and 550  
Microfiltered through membranes of pore diameter  
0,22 µm suitable for UPLC

ART. NO.	VOLUME	CONTAINER
ME03061000	1 l	0
ME03062500	2,5 l	0
ME03064000	4 l	0
ME0306007E	7 l	0
ME0306025S	25 l	0
ME0306030S	30 l	0
ME0306100S	100 l	0
ME0306185E	185 l	0
ME0306200E	200 l	0

ME0339 Methanol, for UHPLC Ultragradient



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,790 - 0,792  
acidity . . . . . max. 0,0002 %  
alkalinity . . . . . max. 0,0002 %  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,02 %  
UV Spectroscopy in a 1,0 cm cell:  
Min. transmission at 215 nm . . . . . min. 50 %  
Min. transmission at 240 nm . . . . . min. 90 %

Min. transmission at 260 nm . . . . . min. 98 %  
gradient grade (230 nm)  
maximum peak absorbance: max. 0,001 AU  
gradient grade (235 nm)  
maximum peak absorbance: max. 0,0015 AU  
gradient grade (254 nm)  
maximum peak absorbance: max. 0,001 AU  
Microfiltered through membranes of pore diameter  
0,2 µm.  
Suitable for UPLC/UHPLC/Ultra HPLC instruments

ART. NO.	VOLUME	CONTAINER
ME03391000	1 l	0
ME03392500	2,5 l	0

ME0334 Methanol, UHPLC-MS



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,790 - 0,792  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
aluminium (Al) . . . . . max. 0,1 ppm  
barium (Ba) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,1 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,01 ppm  
iron (Fe) . . . . . max. 0,02 ppm  
lead (Pb) . . . . . max. 0,02 ppm  
magnesium (Mg) . . . . . max. 0,02 ppm  
manganese (Mn) . . . . . max. 0,01 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
potassium (K) . . . . . max. 0,05 ppm  
silver (Ag) . . . . . max. 0,1 ppm  
sodium (Na) . . . . . max. 0,1 ppm

tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,02 %  
suitability for use in UHPLC-MS . . . . . passes test  
min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A (AU)  
205 nm . . . . . 20 % 0,699 AU  
220 nm . . . . . 60 % 0,222 AU  
240 nm . . . . . 90 % 0,046 AU  
260 nm . . . . . 98 % 0,009 AU  
gradient grade (235 nm)  
maximum peak absorbance: 0,001 AU  
gradient grade (254 nm)  
maximum peak absorbance: 0,0005 AU  
UHPLC-MS test ESI+ . . . . . max. 5 ppb Reserpin  
UHPLC-MS test ESI- . . . . . max. 20 ppb Digoxin  
Microfiltered through membranes of pore diameter  
0,1 µm

ART. NO.	VOLUME	CONTAINER
ME03341000	1 l	0
ME03342500	2,5 l	0

ME0326 Methanol, LC-MS



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,790 - 0,792  
acidity . . . . . max. 0,0002 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
alkalinity . . . . . max. 0,0002 meq/g  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,1 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,01 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,02 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,01 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
potassium (K) . . . . . max. 0,1 ppm  
silver (Ag) . . . . . max. 0,1 ppm

sodium (Na) . . . . . max. 0,1 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,02 %  
suitability for use in LC-MS . . . . . passes test  
min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A (AU)  
205 nm . . . . . 20 % 0,699 AU  
220 nm . . . . . 60 % 0,222 AU  
240 nm . . . . . 90 % 0,046 AU  
260 nm . . . . . 98 % 0,009 AU  
gradient grade (235 nm)  
maximum peak absorbance: 0,001 AU  
gradient grade (254 nm)  
maximum peak absorbance: 0,0005 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
ME03261000	1 l	0
ME03262500	2,5 l	0

ME0318 Methanol, for GC residue analysis



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,790 - 0,792  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,03 %

Suitable for organohalogenated pesticide and dioxins,  
furans and PCBs residue analysis. ECD, from 1,2,4-tri-  
chlorobenzene to decachlorobiphenyl, no peaks are  
obtained greater than 3 pg/ml as lindane. No peaks  
are obtained in vicinity of 2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
ME03181000	1 l	0
ME03182500	2,5 l	0
ME03184000	4 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## ME0319 Methanol, GC ultra-trace analysis grade



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,790 - 0,792  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,03 %  
Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.

Suitable for highly volatile halogenated hydrocarbons trace analysis. ECD, from dichloromethane to 1,2,4-trichlorobenzene, no peaks are obtained greater than 1 ng/ml as tetrachloromethane.  
Suitable for pesticide and polycyclic aromatic hydrocarbons residue analysis. FID, from 1-decanol to 1-tetradecanol, no peaks are obtained greater than 5 ng/ml as 1-tetradecanol. No peaks are obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
ME03191000	1 l	0
ME03192500	2,5 l	0

## ME0298 Methanol, GC-MS



assay (G.C.) . . . . . min. 99,0 %  
colour (Hazen) . . . . . max. 10  
identity (IR-spectrum) . . . . . passes test  
residue on evaporation . . . . . max. 3 ppm  
water (K.F.) . . . . . max. 0,05 %

GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n- tetradecane standard)) . . . . . max. 3,0 ng/ml (ppb)  
Suitable for residue analysis

ART. NO.	VOLUME	CONTAINER
ME02981000	1 l	0
ME02982500	2,5 l	0

## ME0324 Methanol, standard substance for GC



assay . . . . . 99,9%  
over ramp . . . . . 50°C, 10°C/min 200°C  
identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
ME03240005	5 ml	0

## ME0314 Methanol, 99,9%, anhydrous (max. 0,003% H<sub>2</sub>O)



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,790 - 0,792  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
solubility in water . . . . . passes test  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
chlorides (Cl) . . . . . max. 0,00005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
aluminium (Al) . . . . . max. 0,5 ppm  
arsenic (As) . . . . . max. 0,02 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
beryllium (Be) . . . . . max. 0,02 ppm  
bismuth (Bi) . . . . . max. 0,02 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
gallium (Ga) . . . . . max. 0,02 ppm  
gold (Au) . . . . . max. 0,02 ppm

indium (In) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
lithium (Li) . . . . . max. 0,05 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
molybdenum (Mo) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
platinum (Pt) . . . . . max. 0,05 ppm  
silver (Ag) . . . . . max. 0,02 ppm  
thallium (Tl) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
titanium (Ti) . . . . . max. 0,02 ppm  
vanadium (V) . . . . . max. 0,02 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
zirconium (Zr) . . . . . max. 0,02 ppm  
acetone (G.C.) . . . . . max. 0,001 %  
ethanol (G.C.) . . . . . max. 0,05 %  
acetaldehyde (CH<sub>3</sub>CHO) . . . . . max. 0,001 %  
formaldehyde . . . . . max. 0,001 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
ME03140100	100 ml	0
ME03140500	500 ml	0
ME03141000	1 l	0

## ME0325 Methanol, 99,8%, anhydrous (max. 0,005% H<sub>2</sub>O), with molecular sieves



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/20°) . . . . . 0,791 - 0,793  
acidity . . . . . max. 0,0003 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
chlorides (Cl) . . . . . max. 0,0001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %

heavy metals (as Pb) . . . . . max. 2 ppm  
iron (Fe) . . . . . max. 1 ppm  
acetone (G.C.) . . . . . max. 0,001 %  
ethanol (G.C.) . . . . . max. 0,1 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
ME03251000	1 l	0

ME0304 Methanol, dried (max. 0,005% H<sub>2</sub>O), ExpertQ®, for analysis (Karl Fischer)



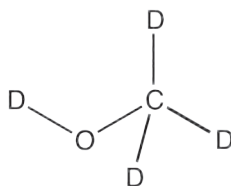
assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,790 - 0,792  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 solubility in water . . . . . passes test  
 acidity . . . . . max. 0,0003 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 chlorides (Cl) . . . . . max. 0,00005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
 aluminium (Al) . . . . . max. 0,5 ppm  
 arsenic (As) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,02 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 gallium (Ga) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max. 0,02 ppm  
 indium (In) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,02 ppm  
 lithium (Li) . . . . . max. 0,05 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,05 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 acetone (G.C.) . . . . . max. 0,001 %  
 ethanol (G.C.) . . . . . max. 0,1 %  
 aldehydes and ketones (as C<sub>2</sub>H<sub>3</sub>CHO) . . . . . max. 0,001 %  
 acetaldehyde (CH<sub>3</sub>CHO) . . . . . max. 0,001 %  
 formaldehyde . . . . . max. 0,0001 %  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
ME03041000	1 l	0
ME03042500	2,5 l	0
ME0304007E	7 l	0

## METHANOL-D4

ME0312 Methanol-d<sub>4</sub>, deuteration degree min. 99,8%, NMR spectroscopy grade, Spectrosol®



- Synonyms: Tetradeuteromethanol
- CD<sub>3</sub>OD
- M = 36,07 g/mol
- CAS [811-98-3]
- EINECS-No.: 212-378-6
- Density: 0,89 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -99°C
- Boiling point: 65°C
- Flash pt. 11°C
- Ignition temp.: 455°C
- LD 50 (oral, rat): 5628 mg/kg
- ADR: 3 FT1 II UN 1230
- IMDG: 3 II UN 1230
- IATA/ICAO: 3 II UN 1230
- GHS-signal word: Danger
- GHS-H sentences: H225 - H301 - H311 - H331 - H370
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P361 - P405 - P501a
- Tariff number: 2845 90 10 00
- Applications: for nuclear magnetic resonance spectroscopy.

deuteration degree . . . . . min. 99,8 %  
 water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) . . . . . max. 0,03 %  
 performance test (NMR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
ME03120010	10 ml	0
ME0312.750	x10x0,75ml	0

## METHANOL WITH 0,1% ACETIC ACID

ME0329 Methanol with 0,1% acetic acid, LC-MS



- Flash pt. 11 °C
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992
- IATA/ICAO: 3 II UN 1992
- GHS-signal word: Danger
- GHS-H sentences: H225 - H331 - H370
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, chromatography.

acetic acid content (v/v) . . . . . 0,093 - 0,107 %  
 calcium (Ca) . . . . . max. 0,5 ppm  
 magnesium (Mg) . . . . . max. 0,5 ppm  
 potassium (K) . . . . . max. 0,5 ppm  
 sodium (Na) . . . . . max. 2 ppm  
 suitability for use in LC-MS . . . . . passes test  
 gradient grade (254 nm)  
 maximum peak absorbance: max. 0,01 AU  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 210 nm . . . . . 5 % 1,301 AU  
 230 nm . . . . . 50 % 0,301 AU  
 254 nm . . . . . 95 % 0,022 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
ME03291000	1 l	0

## METHANOL WITH 0,1% AMMONIUM ACETATE

ME0330 Methanol with 0,1% ammonium acetate, LC-MS



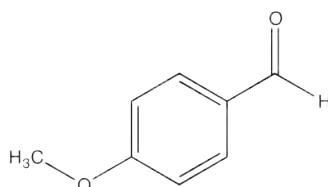
- Flash pt. 11 °C
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992
- IATA/ICAO: 3 II UN 1992
- GHS-signal word: Danger
- GHS-H sentences: H225 - H331 - H370
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, chromatography.

ammonium acetate content (w/v) . . . . 0,093 - 0,107 %  
 calcium (Ca) . . . . .max. 0,5 ppm  
 magnesium (Mg) . . . . .max. 0,5 ppm  
 potassium (K) . . . . .max. 0,5 ppm  
 sodium (Na) . . . . .max. 2 ppm  
 suitability for use in LC-MS . . . . .passes test  
 gradient grade (254 nm) maximum peak  
 absorbance: max. 0,01 AU  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 210 nm. . . . . 5 % 1,301 AU  
 230 nm . . . . .60 % 0,222 AU  
 254 nm. . . . .90 % 0,046 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
ME03301000	1 l	0

## 4-METHOXYBENZALDEHYDE

AL0515 4-Methoxybenzaldehyde, EssentQ®



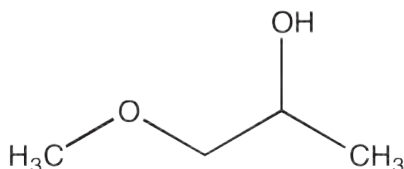
- Synonyms: Anisaldehyde
- $C_8H_8O_2$
- M = 136,15 g/mol
- CAS [123-11-5]
- EINECS-No.: 204-602-6
- Density: (25 °C) 1,12 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 2 g/l
- Melting point: 0 - 2 °C
- Boiling point: 247 - 249 °C
- Flash pt. 116 °C
- Ignition temp.: 220 °C
- Vapour pressure: (20 °C) < 1 hPa
- Refraction index: (n<sub>20°/D</sub>) 1,57
- LD 50 (oral, rat): 3200 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2912 49 00 90
- Applications: perfumery, synthesis of organic products.

assay (G.C.) . . . . .min. 98 %  
 identity (IR-spectrum) . . . . .passes test  
 free acid (as anisic acid) . . . . .max. 0,5 %  
 density (20°/4°) . . . . . 1,120 - 1,124

ART. NO.	VOLUME	CONTAINER
AL05150250	250 ml	0

## 1-METHOXY-2-PROPANOL

ME0665 1-Methoxy-2-propanol, EssentQ®

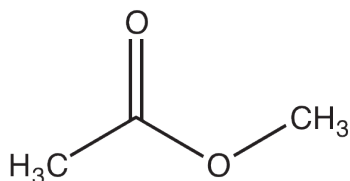


- Synonyms: 1,2-Propylene glycol 1-monomethyl ether
- $C_4H_{10}O_2$
- M = 90,12 g/mol
- CAS [107-98-2]
- EINECS-No.: 203-539-1
- Density: 0,92 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -97 °C
- Boiling point: 120 °C
- Flash pt. 31 °C
- Ignition temp.: 287 °C
- Vapour pressure: (20 °C) 11,5 hPa
- Refraction index: (20 °C, 589 nm) 1,4034
- LD 50 (oral, rat): 6000 mg/kg
- EC-Index-No.: 603-064-00-3
- ADR: 3 F1 III UN 3092
- IMDG: 3 III UN 3092
- IATA/ICAO: 3 III UN 3092
- GHS-signal word: Warning
- GHS-H sentences: H226 - H336
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2909 49 19 90
- Applications: synthesis of organic products, laboratory reagent.

assay (G.C.) . . . . .min. 99 %  
 identity (IR-spectrum) . . . . .passes test  
 density (20°/4°) . . . . . 0,920 - 0,922  
 2-methoxy-1-propanol (G.C.) . . . . .max. 0,5 %  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . .max. 0,005 %

ART. NO.	VOLUME	CONTAINER
ME06651000	1 l	0
ME0665025A	25 l	0

## METHYL ACETATE



- Synonyms: Acetic acid methyl ester
- $\text{CH}_3\text{COOCH}_3$
- $M = 74,08 \text{ g/mol}$
- CAS [79-20-9]
- EINECS-No.: 201-185-2
- Density:  $0,93 \text{ g/cm}^3$
- Solub. in water: (20 °C): 319 g/l
- Melting point:  $-98 \text{ °C}$
- Boiling point:  $56 - 58 \text{ °C}$
- Flash pt.  $-10 \text{ °C}$
- Ignition temp.:  $455 \text{ °C}$
- Vapour pressure: (20 °C) 217 hPa
- Refraction index: (n 20 °C/D) 1,3614

- Dielectric const.: (25 °C) 6,6
- LD 50 (oral, rat): 5000 mg/kg
- EC-Index-No.: 607-021-00-X
- ADR: 3 F1 II UN 1231
- IMDG: 3 II UN 1231
- IATA/ICAO: 3 II UN 1231
- GHS-signal word: Danger
- GHS-H sentences: H225 - H319 - H336 - EUH066
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2915 39 30 00
- Applications: synthesis of organic products, solvents, in the textile industry.

### AC0207 Methyl acetate, EssentQ®



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,932 - 0,934  
residue on evaporation . . . . . max. 0,001 %

water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC02071000	1 l	0
AC02072500	2,5 l	0

### AC0208 Methyl acetate, standard substance for GC

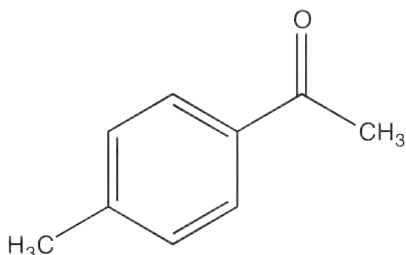


assay . . . . . 99,5 %  
over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200°C  
identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
AC02080005	5 ml	0

## 4-METHYLACETOPHENONE

### ME0320 4-Methylacetophenone, EssentQ®



- Synonyms: Methyl-4-acetophenone, Methyl p-tolyl ketone
- $\text{C}_9\text{H}_{10}\text{O}$
- $M = 134,18 \text{ g/mol}$
- CAS [122-00-9]
- EINECS-No.: 204-514-8
- Density:  $1,00 \text{ g/cm}^3$
- Solub. in water: (15 °C): 0,37 g/l
- Melting point:  $28 \text{ °C}$
- Boiling point:  $226 \text{ °C}$
- Flash pt.  $92 \text{ °C}$
- Vapour pressure: (20 °C) 0,14 hPa
- Refraction index: (n 25 °C/D) 1,5313
- LD 50 (oral, rat): 1400 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2914 39 00 90
- Applications: synthesis of organic products.

assay (G.C.) . . . . . min. 96 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,004 - 1,005  
residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ME03200250	250 ml	0

## METHYLAMINE, SOLUTION 40%

### ME0350 Methylamine, solution 40% in water, EssentQ®



- Synonyms: Aminomethane
- $\text{CH}_3\text{NH}_2$
- $M = 31,06 \text{ g/mol}$
- CAS [74-89-5]
- EINECS-No.: 200-820-0
- Density:  $0,90 \text{ g/cm}^3$
- Melting point:  $-38 \text{ °C}$
- Boiling point:  $48 \text{ °C}$
- Flash pt.  $-15 \text{ °C}$
- Ignition temp.:  $425 \text{ °C}$
- Vapour pressure: (25 °C) 370 hPa
- LD 50 (oral, rat): 698 mg/kg
- EC-Index-No.: 612-001-01-6
- ADR: 3 FC II UN 1235
- IMDG: 3 II UN 1235
- IATA/ICAO: 3 II UN 1235
- GHS-signal word: Danger
- GHS-H sentences: H224 - H318 - H335 - H315
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2921 11 00 00
- Applications: synthesis of organic products, cosmetics.

assay (acidimetric) . . . . . approx. 40 %

ART. NO.	VOLUME	CONTAINER
ME0350025P	25 l	0



## METHYLAMMONIUM CHLORIDE

ME0355 Methylammonium chloride, EssentQ®



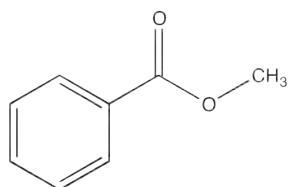
- Synonyms: Methylamine hydrochloride
- $\text{CH}_3\text{NH}_3\text{Cl}$
- $M = 67,52 \text{ g/mol}$
- CAS [593-51-1]
- EINECS-No.: 209-795-0
- Solub. in water: (20 °C): soluble
- Melting point: 228 - 231 °C (sublimes)
- Boiling point: (20 hPa) 225 - 230°C
- LD 50 (oral, rat): 1600 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2921 11 90 00
- Applications: laboratory reagent, synthesis of organic products.

assay (argentometric) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 residue on ignition ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ME03550250	250 g	

## METHYL BENZOATE

BE0210 Methyl benzoate, EssentQ®



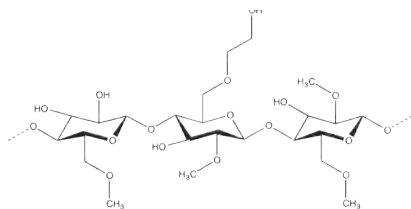
- Synonyms: Benzoic acid methyl ester
- $\text{C}_9\text{H}_8\text{O}_2$
- $M = 136,15 \text{ g/mol}$
- CAS [93-58-3]
- EINECS-No.: 202-259-7
- Density:  $1,09 \text{ g/cm}^3$
- Solub. in water: (30 °C): 0,157 g/l
- Melting point: -12 °C
- Boiling point: 198 - 200 °C
- Flash pt. 83 °C
- Ignition temp.: 510 °C
- Vapour pressure: (20 °C) 0,36 hPa
- Refraction index: (n 20 °C/D) 1,5168
- LD 50 (oral, rat): 1177 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2916 31 00 00
- Applications: microscopy, perfumery, manufacturing of synthetic resins, in the rubber industry, disinfectant, solvents.

assay (G.C.) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 1,086 - 1,088  
 free acid (as  $\text{C}_6\text{H}_5\text{COOH}$ ) ..... max. 0,2 %  
 arsenic (As) ..... max. 1 ppm  
 heavy metals (as Pb) ..... max. 5 ppm  
 iron (Fe) ..... max. 5 ppm  
 residue on ignition ..... max. 0,05 %  
 water (K.F.) ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
BE02101000	1 l	

## METHYLCELLULOSE

ME0390 Methylcellulose, EssentQ®

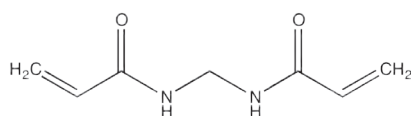


- Synonyms: Tylose
- CAS [9004-67-5]
- Solub. in water: (20 °C): soluble
- Ignition temp.: > 360 °C
- LD 50 (oral, rat): > 2000 mg/kg
- Tariff number: 3912 31 00 00
- Applications: in the paper industry, manufacture of adhesives, cosmetics, in food industry, in the pharmaceuticals industry.

assay ..... min. 93 %  
 viscosity (2 %,  $\text{H}_2\text{O}$ ) ..... 320 - 500 mP  
 residue on ignition ..... max. 0,3 %  
 loss on drying (105 °C) ..... max. 7 %

ART. NO.	VOLUME	CONTAINER
ME03900250	250 g	
ME03901000	1 kg	

## N,N'-METHYLENE-BIS-ACRYLAMIDE



- Synonyms: BIS, Diacrylamidomethane, N,N'-Methylenebis(acrylamide), MBA
- $\text{C}_8\text{H}_{10}\text{N}_2\text{O}_2$
- $M = 154,17 \text{ g/mol}$
- CAS [110-26-9]
- EINECS-No.: 203-750-9
- Solub. in water: (20 °C): slightly soluble
- Melting point: > 300 °C

LD 50 (oral, rat): 390 mg/kg  
 GHS-signal word: Warning  
 GHS-H sentences: H302  
 GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a  
 Tariff number: 2924 19 00 20  
 Applications: for electrophoresis, for biology.

BI0090 N,N'-Methylene-bis-acrylamide, molecular biology grade



assay (acidimetric, after saponification) min. 99 %  
identity (IR-spectrum) . . . . . passes test  
free acid (as acrylic acid) . . . . . max. 0,02 %

DNases, RNases, Proteases . . . . . non detected  
water (K.F). . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
BI00900025	25 g	0

BI0091 N,N'-Methylene-bis-acrylamide, electrophoresis grade



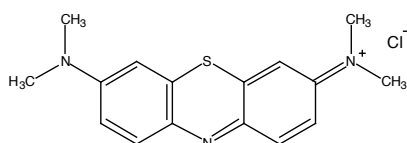
assay (acidimetric, after saponification) min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
free acid (as acrylic acid) . . . . . max. 0,05 %  
heavy metals (as Pb) . . . . . max. 0,001 %

Absorptivity (A1%/1 cm; 290 nm;  
H<sub>2</sub>O) . . . . . max. 0,2  
water (K.F). . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
BI00910050	50 g	0

**METHYLENE BLUE, CARBOL SOLUTION**

AZ0206 Methylene blue, carbol solution, for microscopy

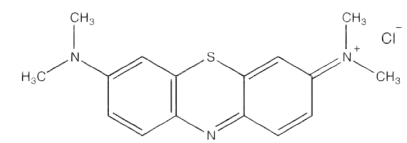


- C<sub>16</sub>H<sub>18</sub>ClN<sub>3</sub>S
- M = 319,86 g/mol
- CAS [61-73-4]
- EINECS-No.: 200-515-2
- Density: 0,995 g/cm<sup>3</sup>
- GHS-signal word: Warning
- GHS-H sentences: H341 - H315 - H319
- GHS-P sentences: P280 - P281 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: microscopy.

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AZ02060500	500 ml	0

**METHYLENE BLUE, C.I. 52015**



- Synonyms: 3,7-Bis(dimethylamino)phenothiazinium chloride, Solvent blue 8, Methylthionine chloride, Tetramethylthionine chloride
- C<sub>16</sub>H<sub>18</sub>ClN<sub>3</sub>S
- M = 319,86 g/mol
- CAS [61-73-4]
- EINECS-No.: 200-515-2
- LD 50 (oral, rat): 1180 mg/kg (anhydrous substance)
- GHS-signal word: Warning

- GHS-H sentences: H302 -
- GHS-P sentences: P264 - P270 - P301 + P312 - P330 - P501a
- Tariff number: 3204 13 00 90
- Applications: analytical chemistry, indicator, for electrophoresis.

AZ0203 Methylene blue, C.I. 52015, EssentQ®



solubility (0,1%, H<sub>2</sub>O) . . . . . passes test  
arsenic (As) . . . . . max. 8 ppm  
iron (Fe) . . . . . passes test  
lead (Pb) max. 20 ppm  
zinc (Zn) . . . . . passes test  
loss on drying (105 °C) . . . . . 8,00 - 15,00 %  
total colour / assay . . . . . 96,00 - 101,00%

ART. NO.	VOLUME	CONTAINER
AZ02030025	25 g	0
AZ02030100	100 g	0
AZ02031000	1 kg	0

ART. NO.	VOLUME	CONTAINER
AZ02030250	250 g	0
AZ02030500	500 g	0

AZ0200 Methylene blue, C.I. 52015, for microscopy



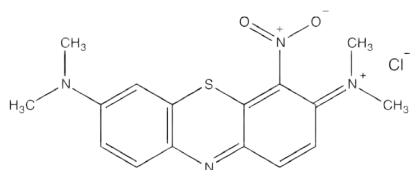
solubility (0,1%, H<sub>2</sub>O) . . . . . passes test  
arsenic (As) . . . . . max. 8 ppm  
iron (Fe) . . . . . passes test  
lead (Pb) . . . . . max. 20 ppm

zinc (Zn) . . . . . passes test  
loss on drying (105 °C) . . . . . 8,00 - 15,00 %  
total colour / assay . . . . . 96,00 - 101,00%

ART. NO.	VOLUME	CONTAINER
AZ02000025	25 g	0
AZ02000100	100 g	0

## METHYLENE GREEN, C.I. 52020

VE0110 Methylene green, C.I. 52020, for microscopy



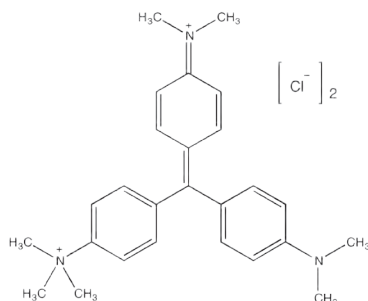
- Synonyms: Basic green 5
- $C_{16}H_{17}ClN_4O_2S$
- $M = 364,85 \text{ g/mol}$
- CAS [2679-01-8]
- EINECS-No.: 220-231-2
- GHS-signal word: Warning
- GHS-H sentences: H373 - H312 - H332
- GHS-P sentences: P260 - P261 - P280 - P322 - P304 + P340 - P501a
- Tariff number: 3204 90 00 00
- Applications: microscopy

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
VE01100005	5 g	0

## METHYL GREEN, C.I. 42585

VE0120 Methyl green, C.I. 42585, for microscopy



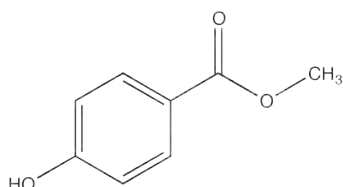
- $C_{26}H_{33}Cl_2N_3$
- $M = 458,47 \text{ g/mol}$
- CAS [7114-03-6]
- EINECS-No.: 230-415-4
- Solub. in water: (20 °C): 60 g/l
- Tariff number: 3204 13 00 90
- Applications: indicator, microscopy.

Absorption maximum (in  $H_2O$ ) . . . . . 630 - 635 nm  
 Absorptivity (A 1%/1 cm;  
 $\lambda$  max,  $H_2O$ ) . . . . . 400 - 1000  
 loss on drying (135 °C) . . . . . max. 10 %

ART. NO.	VOLUME	CONTAINER
VE01200005	5 g	0
VE01200025	25 g	0

## METHYL 4-HYDROXYBENZOATE

ME0478 Methyl 4-hydroxybenzoate, extra pure, Pharmpur®, Ph Eur, BP, NF

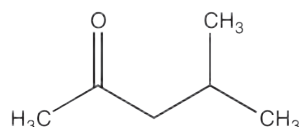


- Synonyms: Methylparaben, 4-Hydroxybenzoic acid methyl ester, PHB-Ester
- $C_9H_8O_3$
- $M = 152,15 \text{ g/mol}$
- CAS [99-76-3]
- EINECS-No.: 202-785-7
- Solub. in water: (20 °C): 2,5 g/l
- Melting point: 125 - 128 °C
- Boiling point: 270 - 280 °C
- Tariff number: 2918 29 30 00
- Applications: preservative agent (in food industry), cosmetics, in pharma industry.

assay (HPLC) . . . . . 98,0 - 102,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 acidity . . . . . passes test  
 related substances . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
ME04780100	100 g	0
ME04780500	500 g	0

## METHYL ISOBUTYL KETONE



- Synonyms: Isobutyl methyl ketone, 4-Methyl-2-pentanone, Isopropylacetone, Hexone, MIBK
- $C_7H_{14}O$
- $M = 100,16 \text{ g/mol}$
- CAS [108-10-1]
- EINECS-No.: 203-550-1
- Density: 0,80 g/cm<sup>3</sup>
- Solub. in water: (20 °C): ~ 18 - 20 g/l
- Melting point: -84 °C
- Boiling point: 116 - 118 °C
- Flash pt. 14 °C
- Ignition temp.: 475 °C
- Vapour pressure: (20 °C) 20,2 hPa
- Dielectric const.: (20 °C) 13,1

- LD 50 (oral, rat): 2080 mg/kg
- EC-Index-No.: 606-004-00-4
- ADR: 3 F1 II UN 1245
- IMDG: 3 II UN 1245
- IATA/ICAO: 3 II UN 1245
- GHS-signal word: Danger
- GHS-H sentences: H225 - H332 - H319 - H335 - EUH066
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2914 13 00 00
- Applications: laboratory reagent, synthesis of organic products, solvents.

ME0490 Methyl isobutyl ketone, EssentQ®



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,800 - 0,802  
residue on evaporation . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
ME04901000	1 l	0
ME04902500	2,5 l	0

ART. NO.	VOLUME	CONTAINER
ME0490005L	5 l	0
ME0490025A	25 l	0

ME0493 Methyl isobutyl ketone, ExpertQ®, for analysis, ACS



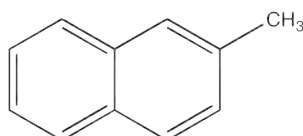
assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,800 - 0,802  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,002 meq/g  
alkalinity . . . . . max. 0,001 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
substances reducing KMnO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ME04931000	1 l	0
ME04932500	2,5 l	0

## 2-METHYLNAPHTHALENE

ME0514 2-Methylnaphthalene, EssentQ®



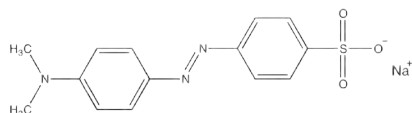
- C<sub>11</sub>H<sub>10</sub>
- M = 142,20 g/mol
- CAS [91-57-6]
- EINECS-No.: 202-078-3
- Solub. in water: (20°C): insoluble
- Melting point: 32 - 35°C
- Boiling point: 242°C
- Flash pt. 98 °C
- LD 50 (oral, rat): 1630 mg/kg
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning
- GHS-H sentences: H302 - H411
- GHS-P sentences: P273 - P264 - P270 - P330 - P391 - P501a
- Tariff number: 2902 90 90 00
- Applications: synthesis of organic products, laboratory reagent.

assay (G.C.) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
ME05140250	250 g	0

## METHYL ORANGE, C.I. 13025

AN0073 Methyl orange, C.I. 13025, indicator, ExpertQ®, for analysis, ACS



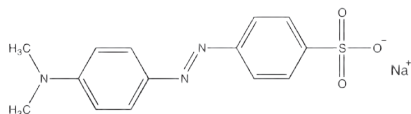
- Synonyms: Helianthine, 4-Dimethylaminoazobenzene-4'-sulfonic acid sodium salt, Gold orange
- C<sub>14</sub>H<sub>14</sub>N<sub>3</sub>NaO<sub>3</sub>S
- M = 327,34 g/mol
- CAS [547-58-0]
- EINECS-No.: 208-925-3
- Solub. in water: (20 °C): ~ 5 g/l
- LD 50 (oral, rat): 60 mg/kg
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H301
- GHS-P sentences: P264 - P270 - P321 - P330 - P405 - P501a
- Tariff number: 2927 00 00 90
- Applications: indicator, analytical chemistry, laboratory reagent (alkali salts), manufacture of dyes (in the textile industry).
- Appearance: Orange crystalline powder

appearance of solution . . . . . passes test  
pH range (pink to orange-yellow) . . . . . 3,2 - 4,4  
visual transition interval . . . . . passes test  
Absorption maximum λ<sub>2</sub> (pH 4,4) . . . . . 467 - 471 nm  
Absorption maximum λ<sub>1</sub> (pH 3,1) . . . . . 501 - 504 nm  
Absorptivity (A1%/1 cm; λ<sub>1</sub>; pH 3,1  
on dried sample) . . . . . 1050 - 1150  
Absorptivity (A1%/1 cm; λ<sub>2</sub>; pH 4,4  
on dried sample) . . . . . 750 - 850  
loss on drying (110°C) . . . . . max. 5 %

ART. NO.	VOLUME	CONTAINER
AN00730050	50 g	0
AN00730100	100 g	0
AN00730500	500 g	0

## METHYL ORANGE, SOLUTION 0,04%

ANO075 Methyl orange, solution 0,04%, indicator

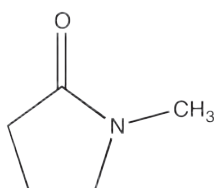


- Synonyms: Helianthine, 4-Dimethylaminoazobenzene-4'-sulfonic acid sodium salt, Gold orange
- $C_{14}H_{14}N_3NaO_3S$
- CAS [547-58-0]
- EINECS-No.: 208-925-3
- Density: ~ 1,0 g/cm<sup>3</sup>
- Tariff number: 2927 00 00 90
- Applications: analytical chemistry, laboratory reagent, indicator, for biology.

pH range (red-orange) . . . . . 3,1 - 4,4

ART. NO.	VOLUME	CONTAINER
ANO0750250	250 ml	0

## 1-METHYL-2-PYRROLIDONE



- Synonyms: N-Methylpyrrolidone, N-Methyl-2-pyrrolidone, NMP
- $C_5H_9NO$
- $M = 99,13$  g/mol
- CAS [872-50-4]
- EINECS-No.: 212-828-1
- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -24 °C
- Boiling point: 202 °C
- Flash pt. 91 °C
- Ignition temp.: 245 °C

- Vapour pressure: (20 °C) 0,32 hPa
- Refraction index: (n 20 °C/D) 1,4684
- Dielectric const.: (25 °C) 33
- LD 50 (oral, rat): 3598 mg/kg
- EC-Index-No.: 606-021-00-7
- GHS-signal word: Danger
- GHS-H sentences: H360D - H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2933 79 00 90
- Applications: analytical chemistry, chromatography, synthesis of organic products.

ME0494 1-Methyl-2-pyrrolidone, EssentQ®



assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
ME04941000	1 l	0
ME04942500	2,5 l	0
ME0494005L	5 l	0

ART. NO.	VOLUME	CONTAINER
ME0494025L	25 l	0
ME0494200L	200 l	0

ME0495 1-Methyl-2-pyrrolidone, extra pure, Pharmpur®, Ph Eur, BP



identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 clarity and colour of solution . . . . . passes test  
 alkalinity . . . . . passes test  
 related substances . . . . . passes test

water (K.F.) . . . . . max. 0,1 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
ME04951000	1 l	0
ME04952500	2,5 l	0
ME0495025A	25 l	0

ME0496 1-Methyl-2-pyrrolidone, ExpertQ®, for analysis, ACS



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . about 1,028  
 colour (Hazen) . . . . . max. 50  
 chlorides (Cl) . . . . . max. 1 ppm

free amines (as  $CH_3NH_2$ ) . . . . . max. 0,01 %  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ME04961000	1 l	0
ME04962500	2,5 l	0
ME0496025A	25 l	0

ME0503 1-Methyl-2-pyrrolidone, GC head space grade



assay (G.C.) . . . . . min. 99,9 %  
 refractive index n<sub>20</sub>/D . . . . . 1,468 - 1,471  
 water (K.F.) . . . . . max. 0,03 %  
 Packed under inert gas Suitable for residual solvents analysis Residual solvents are analysed according to guideline CPMP/ICH/283/95. Class 1 solvents excluded by production process. Class 2 and class 3 solvents likely to be present below following limits  
 dichloromethane . . . . . 0,6 mg/l  
 tert-Butyl methyl ether . . . . . 1 mg/l  
 acetone . . . . . 1 mg/l  
 methanol . . . . . 1 mg/l  
 tetrahydrofuran . . . . . 0,7 mg/l  
 n-Hexane . . . . . 0,3 mg/l  
 ethyl acetate . . . . . 1 mg/l  
 ethanol . . . . . 1 mg/l  
 cyclohexane . . . . . 1 mg/l

acetonitrile . . . . . 0,4 mg/l  
 2-propanol . . . . . 1 mg/l  
 isopropyl acetate . . . . . 1 mg/l  
 n-Propanol . . . . . 1 mg/l  
 n-Heptane . . . . . 1 mg/l  
 methylcyclohexane . . . . . 1 mg/l  
 1,4-Dioxane . . . . . 0,4 mg/l  
 toluene . . . . . 0,9 mg/l  
 pyridine . . . . . 1 mg/l  
 n-Butanol . . . . . 1 mg/l  
 butyl acetate . . . . . 1 mg/l  
 ethylbenzene . . . . . 1 mg/l  
 p-Xylene . . . . . 1 mg/l  
 m-Xylene . . . . . 1 mg/l  
 o-Xylene . . . . . 1 mg/l  
 benzene (G.C.) . . . . . absence

ART. NO.	VOLUME	CONTAINER
ME05032500	2,5 l	0
ME05031000	1 l	0

ME0492 1-Methyl-2-Pyrrolidone, standard substance for GC



assay .....99,8%  
over ramp .....80°C, 7°C/min 220°C  
identity..... IR

ART. NO.	VOLUME	CONTAINER
ME04920005	5 ml	Ⓜ

ME0590 1-Methyl-2-pyrrolidone, peptide synthesis grade

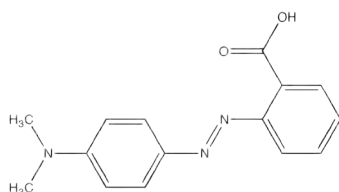


assay (G.C.) ..... min. 99,5 %  
identity (IR-spectrum) ..... passes test  
density (20°/4°)..... 1,031 - 1,034  
colour (Hazen) ..... max. 10  
methylamine ..... max. 0,01 %  
water (K.F.) ..... max. 0,08 %

ART. NO.	VOLUME	CONTAINER
ME05902500	2,5 l	Ⓜ

## METHYL RED, C.I. 13020

RO0150 Methyl red, C.I. 13020, indicator



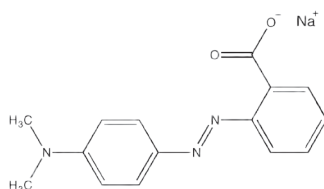
- Synonyms: 2-[[4-Dimethylamino]phenylazo]benzoic acid
- C<sub>15</sub>H<sub>15</sub>N<sub>3</sub>O<sub>2</sub>
- M = 269,31 g/mol
- CAS [493-52-7]
- EINECS-No.: 207-776-1
- Solub. in water: (20 °C): slightly soluble
- Melting point: 178 - 182 °C
- Tariff number: 2927 00 00 90
- Applications: analytical chemistry, indicator.

pH range (red-violet to brownish - yellow) ..... 4,5 - 6,2  
Absorption maximum λ<sub>1</sub> (pH 4,5) ..... 523 - 526 nm  
Absorption maximum λ<sub>2</sub> (pH 6,2) ..... 427 - 437 nm  
Absorptivity (A1%/1 cm; λ<sub>1</sub>; pH 4,5 on dried sample) ..... 1380 - 1480  
Absorptivity (A1%/1 cm; λ<sub>2</sub>; pH 6,2 on dried sample) ..... 700 - 800  
transition range acc. ACS ..... passes test  
loss on drying (110 °C) ..... max. 5 %

ART. NO.	VOLUME	CONTAINER
RO01500010	10 g	Ⓜ
RO01500100	100 g	Ⓜ

## METHYL RED, SODIUM SALT, C.I. 13020

RO0155 Methyl red, sodium salt, C.I. 13020, indicator, soluble in water




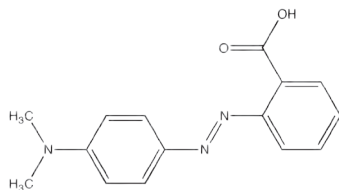
- Synonyms: 2-[[4-Dimethylamino]phenylazo]benzoic acid sodium salt
- C<sub>15</sub>H<sub>14</sub>N<sub>3</sub>NaO<sub>2</sub>
- M = 291,29 g/mol
- CAS [845-10-3]
- EINECS-No.: 212-682-9
- Solub. in water: (20 °C): ~ 800 g/l
- Tariff number: 2927 00 00 90
- Applications: analytical chemistry, indicator.

pH range (red-violet to brownish - yellow) ..... 4,5 - 6,2  
Absorption maximum λ<sub>1</sub> (pH 4,5) ..... 523 - 526 nm  
Absorption maximum λ<sub>2</sub> (pH 6,2) ..... 430 - 438 nm  
Absorptivity (A1%/1 cm; λ<sub>1</sub>; pH 4,5 on dried sample) ..... 1200 - 1400  
Absorptivity (A1%/1 cm; λ<sub>2</sub>; pH 6,2 on dried sample) ..... 600 - 700  
transition range acc. ACS ..... passes test  
loss on drying (110 °C) ..... max. 5 %

ART. NO.	VOLUME	CONTAINER
RO01550010	10 g	Ⓜ
RO01550025	25 g	Ⓜ
RO01550100	100 g	Ⓜ
RO01551000	1 kg	Ⓜ



## METHYL RED, SOLUTION 0,1%

 RO0156 Methyl red, solution 0,1%, indicator
 


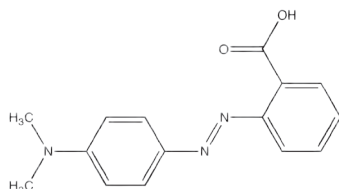
- Synonyms: 2-[[4-(Dimethylamino)phenylazo]benzoic acid
- $C_{15}H_{15}N_3O_2$
- $M = 269,31$  g/mol
- CAS [493-52-7]
- EINECS-No.: 207-776-1
- Density: 0,93 g/cm<sup>3</sup>
- Flash pt. 27 °C
- ADR: 3 F1 III UN 1993
- IMDG: 3 III UN 1993
- IATA/ICAO: 3 III UN 1993
- GHS-signal word: Warning
- GHS-H sentences: H226
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2927 00 00 90
- Applications: analytical chemistry, laboratory reagent, indicator, for microbiology.

pH range (red to yellow) . . . . . 4,2 - 6,2

ART. NO.	VOLUME	CONTAINER
RO01560100	100 ml	0

## METHYL RED, SOLUTION 2%

 RE0057 Methyl red, solution 2%, for microscopy
 

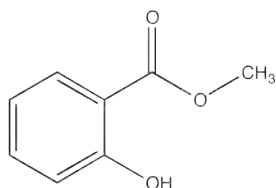


- Synonyms: 2-[[4-(Dimethylamino)phenylazo]benzoic acid
- $C_{15}H_{15}N_3O_2$
- $M = 269,31$  g/mol
- CAS [493-52-7]
- EINECS-No.: 207-776-1
- Density: 0,90 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 22 °C
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225 - H302
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2927 00 00 90

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
RE0057G100	100 ml	0
RE00571000	1 l	0

## METHYL SALICYLATE

 SA0180 Methyl salicylate, extra pure, Pharmapur®, Ph Eur, NF
 


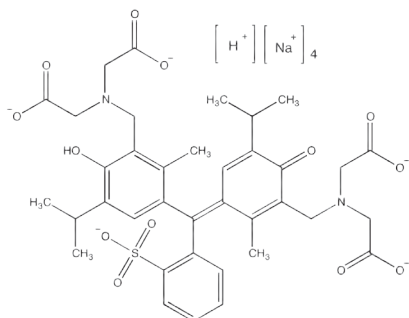
- Synonyms: Wintergreen oil synthetic
- $C_9H_8O_3$
- $M = 152,15$  g/mol
- CAS [119-36-8]
- EINECS-No.: 204-317-7
- Density: 1,18 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: -8 °C
- Boiling point: 224 °C
- Flash pt. 96 °C
- Ignition temp.: 450 °C
- Vapour pressure: (20 °C) ~ 0,13 hPa
- LD 50 (oral, rat): 887 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302 - H319
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 2918 23 10 00
- Applications: synthesis of organic products, perfumery, in food industry, in pharma industry.

 assay (acidimetric) . . . . . 99 - 100,5 %  
 identification . . . . . passes test  
 density (20°/20°) . . . . . 1,180 - 1,186  
 refractive index n<sub>20</sub>/D . . . . . 1,535 - 1,538  
 acidity . . . . . passes test  
 specific rotation ([α]<sub>25</sub>/D) . . . . . inactive  
 appearance of solution . . . . . passes test  
 solubility in ethanol 70 % . . . . . passes test  
 heavy metals (as Pb) . . . . . max. 0,002 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SA01801000	1 l	0

## METHYLTHYMOL BLUE, TETRASODIUM SALT

AZ0205 Methylthymol blue, tetrasodium salt, indicator



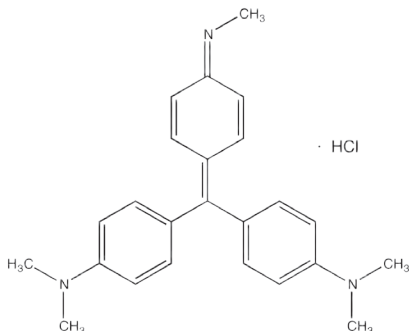
- Synonyms: MTB; 3,3'-Bis[N,N-di(carboxymethyl)aminomethyl]thymolsulfonephthalein, sodium salt
- $C_{37}H_{40}N_2Na_4O_{13}S$
- $M = 844,76 \text{ g/mol}$
- CAS [1945-77-3]
- EINECS-No.: 217-743-3
- Solub. in water: (20 °C): ~ 460 g/l
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, indicator, titrant in volumetric analysis (metals).

Absorption maximum  $\lambda$  (in ethanol) . . . . 430 - 440 nm  
Absorptivity (A1%/1 cm;  $\lambda$  max.) . . . . . 90 - 110  
insoluble in water . . . . . passes test  
suitability as indicator . . . . . passes test  
loss on drying . . . . . max. 7 %

ART. NO.	VOLUME	CONTAINER
AZ02050001	1 g	0
AZ02050005	5 g	0

## METHYL VIOLET, C.I. 42535

VI0070 Methyl violet, C.I. 42535, for microscopy



- Synonyms: Methylrosaniline
- $C_{24}H_{27}N_3 \cdot HCl$
- CAS [8004-87-3]
- EINECS-No.: 208-953-6
- Solub. in water: (25 °C): 30 g/l
- LD 50 (oral, rat): 460 - 680 mg/kg
- EC-Index-No.: 612-204-00-2
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Danger
- GHS-H sentences: H318 - H351 - H400 - H410 - H302
- GHS-P sentences: P280 - P281 - P273 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3204 13 00 90
- Applications: indicator, microscopy.

Absorption maximum (in ethanol 50 %) . . . . .583 - 587 nm  
Absorptivity (A1%/1 cm;  $\lambda$  max; ethanol 50 %) . . . . .1600 - 1800  
loss on drying (110 °C) . . . . . max. 8 %

ART. NO.	VOLUME	CONTAINER
VI00700025	25 g	0
VI00700100	100 g	0
VI00700250	250 g	0

## MILLON'S REAGENT

RE0040 Millon's reagent



- Density: 1,358 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 CT1 II UN 2922
- IMDG: 8 II UN 2922
- IATA/ICAO: 8 II UN 2922
- GHS-signal word: Danger
- GHS-H sentences: H300 - H310 - H330 - H314 - H373 - H400 - H410

- GHS-P sentences: P303 + P361 + P353 - P305 + P351 + P338 - P320 - P361 - P405 - P501a
- Tariff number: 2852 90 00 00
- Applications: analytical chemistry; for determination of: tyrosine, albumin, phenols.

suitability for determination of tyrosine, phenol and albuminoids . . . . . passes test

ART. NO.	VOLUME	CONTAINER
RE00400100	100 ml	0

## MIXED INDICATOR I

IN0040 Mixed indicator I, for determination of sulfurous gas (SO<sub>2</sub>) according to Paul



- Density: ~ 0,93 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Boiling point: 78,3°C
- Flash pt. 25°C
- Ignition temp.: 425°C
- Vapour pressure: 59 hPa (20°C)
- ADR: 3 F1 III UN 1993
- IMDG: 3 III UN 1993
- IATA/ICAO: 3 III UN 1993


- GHS-signal word: Warning
- GHS-H sentences: H226 - H319
- GHS-P sentences: P210 - P241 - P280 - P303 + P361 + P353 - P305 + P351 + P338 - P501a
- Tariff number: 3822 00 00 00

composition of 1 liter:  
methyl red . . . . .1000 mg  
methylene blue 500 mg  
ethanol. . . . . 500 ml  
water to make 1 liter

ART. NO.	VOLUME	CONTAINER
IN0040G100	100 ml	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## MIXTURE N-HEXANE/TERT-BUTYL METHYL ETHER, 80:20

ME0605 Mixture n-hexane/tert-butyl methyl ether, 80:20 v/v, ExpertQ®, for analysis 

- Density: ~ 0,67 g/cm<sup>3</sup>
- Flash pt. -23 °C
- LD 50 (oral, rat): 28710 mg/kg
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H361f - H373 - H315 - H336 - H411
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 3814 00 90 99
- Applications: solvent for industrial uses.

mixture according to:

n-hexane 96%	800 ml
tert-Butyl methyl ether	200 ml
free acid (as CH <sub>3</sub> COOH)	max. 0,002 %
aluminium (Al)	max. 0,5 ppm
barium (Ba)	max. 0,1 ppm
boron (B)	max. 0,02 ppm
cadmium (Cd)	max. 0,05 ppm
calcium (Ca)	max. 0,5 ppm
chromium (Cr)	max. 0,02 ppm
cobalt (Co)	max. 0,02 ppm
copper (Cu)	max. 0,02 ppm
iron (Fe)	max. 0,1 ppm
lead (Pb)	max. 0,1 ppm
magnesium (Mg)	max. 0,1 ppm

manganese (Mn) .....max. 0,02 ppm  
 nickel (Ni) .....max. 0,02 ppm  
 tin (Sn) .....max. 0,1 ppm  
 zinc (Zn) .....max. 0,1 ppm  
 aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) .....max. 0,01 %  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) .....max. 0,0005 %  
 thiophene (C<sub>4</sub>H<sub>2</sub>S) .....max. 0,0001 %  
 sulfur compounds (as S) .....max. 0,005 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> .....passes test  
 residue on evaporation .....max. 0,001 %  
 water (K.F.) .....max. 0,02 %

ART. NO.	VOLUME	CONTAINER
ME06052500	2,5 l	0

## MIXTURE T.A.N.

ME0790 Mixture T.A.N. (toluene/isopropyl alcohol/water), according to ASTM D974 

- Density: 0,82 g/cm<sup>3</sup>
- Flash pt. 9 °C
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H361 - H373 - H315 - H319 - H336
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3814 00 90 99
- Applications: solvent for industrial uses.

mixture according to:

toluene	500 ml
isopropyl alcohol	495 ml
water	5 ml
free acid (as C <sub>2</sub> H <sub>5</sub> COOH)	max. 0,001 %
iron (Fe)	max. 1 ppm
heavy metals (as Pb)	max. 2 ppm
substances darkened by H <sub>2</sub> SO <sub>4</sub>	.....passes test
residue on evaporation	.....max. 0,001 %


ART. NO.	VOLUME	CONTAINER
ME07901000	1 l	0
ME07902500	2,5 l	0
ME0790007E	7 l	0
ME0790025A	25 l	0
ME0790025S	25 l	0

## MIXTURE T.B.N.

- Density: 1,08 g/cm<sup>3</sup>
- ADR: 8 C3 II UN 3265
- IMDG: 8 II UN 3265
- IATA/ICAO: 8 II UN 3265

- GHS-signal word: Danger
- GHS-H sentences: H314 - H332 - H411 - EUH209A
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 3814 00 90 99
- Applications: analytical chemistry, in the petroleum industry.


ME0513 Mixture T.B.N. : chlorobenzene/acetic acid, 2:1 v/v, according to ASTM D974, EssentQ® 

mixture according to:

chlorobenzene	667 ml
acetic acid (CH <sub>3</sub> COOH)	333 ml
sulfates (SO <sub>4</sub> )	max. 0,0005 %
iron (Fe)	max. 0,5 ppm
lead (Pb)	max. 0,5 ppm
nickel (Ni)	max. 0,2 ppm

zinc (Zn) .....max. 5 ppm  
 water (K.F.) .....max. 0,5 %

ART. NO.	VOLUME	CONTAINER
ME05131000	1 l	0
ME05132500	2,5 l	0
ME0513007E	7 l	0
ME0513025A	25 l	0

ME0515 Mixture T.B.N.: chlorobenzene/acetic acid, 2:1 v/v, according to ASTM D2896, ExpertQ®, for analysis 

mixture according to:

chlorobenzene	667 ml
acetic acid (CH <sub>3</sub> COOH)	333 ml
sulfates (SO <sub>4</sub> )	max. 0,0002 %
iron (Fe)	max. 0,2 ppm

lead (Pb) .....max. 0,2 ppm  
 nickel (Ni) .....max. 0,1 ppm  
 zinc (Zn) .....max. 2 ppm  
 water (K.F.) .....max. 0,3 %

ART. NO.	VOLUME	CONTAINER
ME05151000	1 l	0
ME0515007E	7 l	0

## MOLECULAR SIEVE

- Synonyms: Sodium aluminium silicate
- Solub. in water: (20 °C): insoluble

- LD 50 (oral, rat): > 5110 mg/kg
- Tariff number: 3824 90 15 90

- Applications: analytical chemistry, stabilizer, complexant agent.

TA0140 Molecular sieve 3 Å, pearl-shaped, 2 - 3 mm

pore diameter ..... 3 Å

ART. NO.	VOLUME	CONTAINER
TA01400250	250 g	☐

ART. NO.	VOLUME	CONTAINER
TA01401000	1 kg	☐

TA0141 Molecular sieve 4 Å, pearl-shaped, 2 - 3 mm

pore diameter ..... 4 Å

ART. NO.	VOLUME	CONTAINER
TA01410250	250 g	☐

ART. NO.	VOLUME	CONTAINER
TA01411000	1 kg	☐

## MOLYBDENUM

MO0025 Molybdenum, powder, EssentQ®

- Mo
- M = 95,94 g/mol
- CAS [7439-98-7]
- EINECS-No.: 231-107-2
- Solub. in water: (20 °C): insoluble
- Melting point: ~ 2620 °C
- Tariff number: 8102 10 00 00

- Applications: laboratory reagent, in building materials, in the electronic industry, in lubricant compositions, metal alloys, catalyst (in the petroleum industry).

assay .....min. 99 %

ART. NO.	VOLUME	CONTAINER
MO00250100	100 g	☐

## MOLYBDENUM(VI) OXIDE

MO0050 Molybdenum(VI) oxide, EssentQ®



- Synonyms: Molybdic acid anhydride, Molybdenum trioxide
- MoO<sub>3</sub>
- M = 143,94 g/mol
- CAS [1313-27-5]
- EINECS-No.: 215-204-7
- Solub. in water: (20 °C): ~ 0,5 g/l
- Melting point: 795 °C
- Boiling point: 1155 °C
- LD 50 (oral, rat): 2689 mg/kg
- EC-Index-No.: 042-001-00-9
- ADR: 6.1 T5 III UN 3288
- IMDG: 6.1 III UN 3288
- IATA/ICAO: 6.1 III UN 3288
- GHS-signal word: Warning

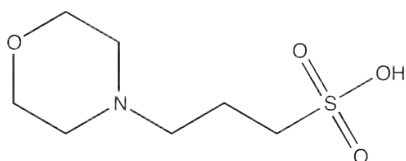
- GHS-H sentences: H351 - H319 - H335
- GHS-P sentences: P261 - P280 - P281 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2825 70 00 00
- Applications: analytical chemistry, laboratory reagent.
- Appearance: Yellow to green solid

assay (complexometric) .....min. 99 %  
 insoluble in NH<sub>4</sub>OH .....max. 0,05 %  
 chlorides (Cl) .....max. 0,005 %  
 phosphates, arseniates,  
 silicates (as PO<sub>4</sub>) .....max. 0,002 %  
 sulfates (SO<sub>4</sub>) .....max. 0,01 %  
 ammonium (NH<sub>4</sub>) .....max. 0,01 %  
 copper (Cu) .....max. 0,002 %  
 iron (Fe) .....max. 0,002 %  
 lead (Pb) .....max. 0,002 %  
 nickel (Ni) .....max. 0,002 %

ART. NO.	VOLUME	CONTAINER
MO00500250	250 g	☐

## MOPS

MO0070 MOPS, molecular biology grade



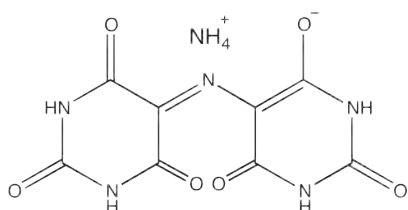
- Synonyms: 3-(N-Morpholino)propanesulfonic acid
- C<sub>7</sub>H<sub>13</sub>NO<sub>3</sub>S
- M = 209,26 g/mol
- CAS [1132-61-2]
- EINECS-No.: 214-478-5
- Solub. in water: (20 °C): 1000 g/l
- Melting point: 277 - 282 °C
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2934 99 90 90
- Applications: in buffer solutions (for biology), laboratory reagent.

assay (potentiometric) .....min. 99 %  
 identity (IR-spectrum) .....passes test  
 absorbance of an aqueous solution  
 0,1 M in a 1 cm cell at 260 nm .....max. 0,05 AU  
 absorbance of an aqueous solution  
 0,1 M in a 1 cm cell at 280 nm .....max. 0,05 AU  
 heavy metals (as Pb) .....max. 5 ppm  
 DNases, RNases, Proteases .....non detected

ART. NO.	VOLUME	CONTAINER
MO00700100	100 g	☐
MO00700500	500 g	☐

## MUREXIDE

MU0020 Murexide, indicator for metal titration

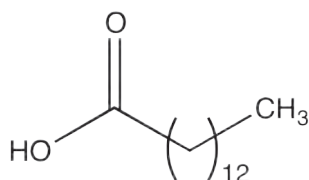


- Synonyms: Ammonium purpurate, acid
- $C_8H_8N_6O_6$
- $M = 284,19 \text{ g/mol}$
- CAS [3051-09-0]
- EINECS-No.: 221-266-6
- Solub. in water: (20 °C): ~ 1 g/l
- Tariff number: 2933 54 00 00
- Applications: analytical chemistry, indicator (for determination of: metals), complexant agent.

Absorption maximum  $\lambda$  (in  $H_2O$ ) . . . . . 517 - 523 nm  
 Absorptivity ( $A_{1\%}^{1 \text{ cm}}$ ;  $\lambda$  max.) . . . . . 375 - 500  
 suitability as complexometric  
 indicator . . . . . passes test  
 loss on drying . . . . . max. 10 %

ART. NO.	VOLUME	CONTAINER
MU00200005	5 g	0
MU00200025	25 g	0

## MYRISTIC ACID



- Synonyms: Tetradecanoic acid
- $C_{14}H_{28}O_2$
- $M = 228,38 \text{ g/mol}$
- CAS [544-63-8]
- EINECS-No.: 208-875-2
- Solub. in water: (20 °C): insoluble
- Melting point: 51 - 54 °C
- Boiling point: (133 hPa) 250 °C

- Flash pt. 112 °C
- Vapour pressure: (20 °C) 10000 mg/kg
- Tariff number: 2915 90 80 90
- Applications: synthesis of organic products, in lubricant compositions, cosmetics, in the pharmaceuticals industry.

AC1477 Myristic acid, EssentQ®

assay (G.C.) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %

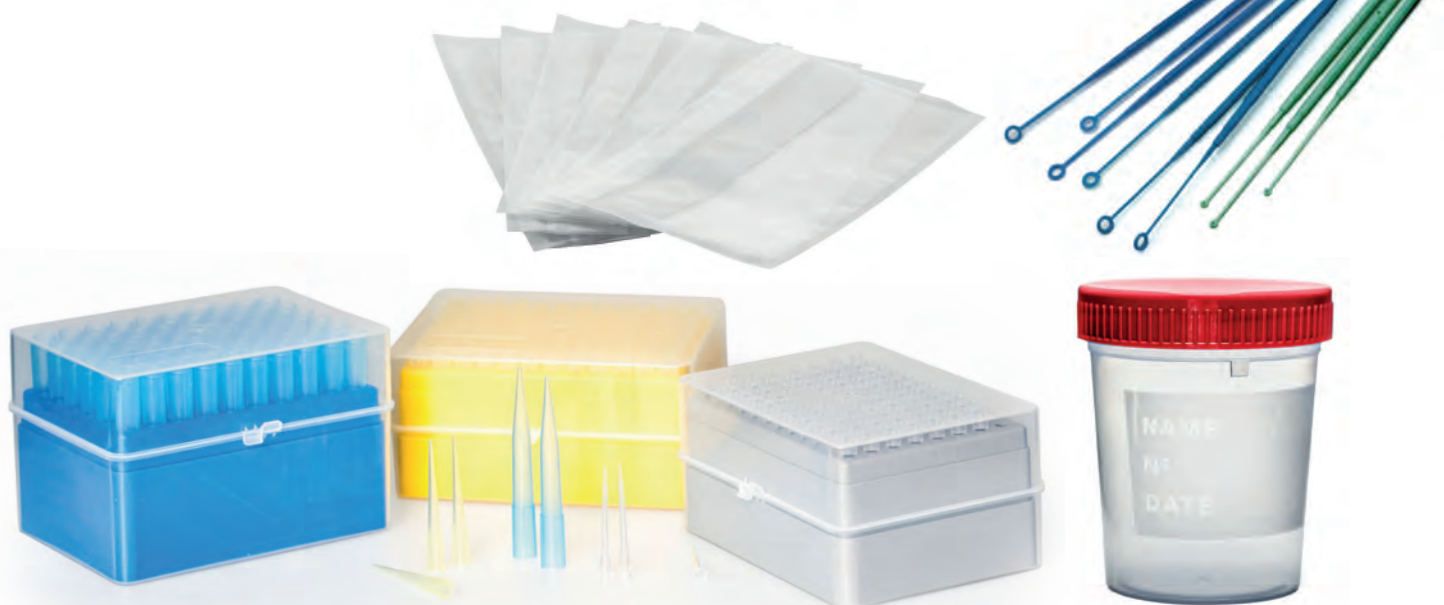
ART. NO.	VOLUME	CONTAINER
AC14771000	1kg	0

AC1482 Myristic acid, EssentQ®, Reag. Ph Eur

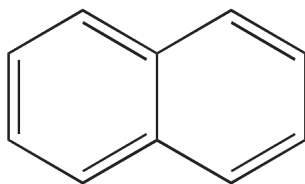
assay (G.C.) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 melting range . . . . . 57 - 59°C  
 residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AC14820100	100 g	0

# Scharlau Consumables


  
The wise choice


## NAPHTHALENE



- Synonyms: Naphthalin
- $C_{10}H_8$
- M = 128,16 g/mol
- CAS [91-20-3]
- EINECS-No.: 202-049-5
- Solub. in water: (20 °C): 0,3 g/l
- Melting point: 79 - 82 °C
- Boiling point: 218 °C
- Flash pt. 80 °C
- Ignition temp.: 540 °C
- Vapour pressure: (20 °C) 0,066 hPa
- LD 50 (oral, rat): > 2000 mg/kg

- EC-Index-No.: 601-052-00-2
- ADR: 4.1 F1 III UN 1334
- IMDG: 4.1 III UN 1334
- IATA/ICAO: 4.1 III UN 1334
- GHS-signal word: Warning
- GHS-H sentences: H351 - H400 - H410 - H302
- GHS-P sentences: P281 - P273 - P264 - P308 + P313 - P405 - P501a
- Tariff number: 2902 90 00 00
- Applications: synthesis of organic products, manufacture of dyes, manufacturing of synthetic resins, for pharmaceutical use.

NA0024 Naphthalene, pellets approx. 3 - 4 mm, EssentQ®



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,02 %  
water (K.F.) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
NA00240500	500 g	Ⓜ
NA00241000	1 kg	Ⓜ

ART. NO.	VOLUME	CONTAINER
NA0024005P	5 kg	Ⓜ
NA0024025P	25 kg	Ⓜ

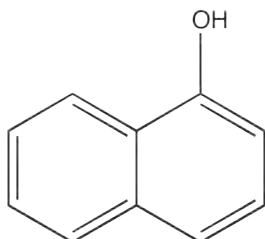
NA0026 Naphthalene, pellets approx. 3 - 4 mm, ExpertQ®, for analysis



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,01 %  
water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
NA00261000	1 kg	Ⓜ

## 1-NAPHTHOL



- Synonyms: 1-Hydroxynaphthalene
- $C_{10}H_8O$
- M = 144,17 g/mol
- CAS [90-15-3]
- EINECS-No.: 201-969-4
- Solub. in water: (20 °C): ~ 0,1 g/l
- Melting point: 95 - 97 °C
- Boiling point: ~ 288 °C
- Flash pt. 125 °C
- Ignition temp.: 510 °C
- Vapour pressure: (94 °C) 1,3 hPa
- LD 50 (oral, rat): 275 mg/kg
- EC-Index-No.: 604-029-00-5

- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H318 - H302 - H312 - H335 - H315
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2907 15 10 00
- Applications: analytical chemistry, synthesis of organic products, manufacture of dyes and perfumery.

NA0110 1-Naphthol, EssentQ®



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
water (K.F.) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
NA01100250	250 g	Ⓜ

ART. NO.	VOLUME	CONTAINER
NA01101000	1 kg	Ⓜ

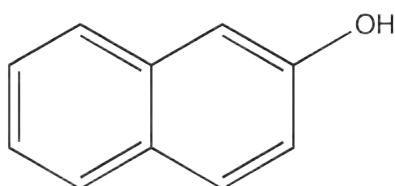
NA0112 1-Naphthol, ExpertQ®, for analysis, Reag. Ph Eur



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
appearance of solution . . . . . passes test  
chlorides (Cl) . . . . . max. 0,005 %  
heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,001 %  
naphthalene (G.C.) . . . . . max. 0,2 %  
2-naphthol (G.C.) . . . . . max. 0,2 %  
residue on ignition . . . . . max. 0,05 %  
water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
NA01120250	250 g	Ⓜ

## 2-NAPHTHOL



- Synonyms: 2-Hydroxynaphthalene
- $C_{10}H_8O$
- M = 144,17 g/mol
- CAS [135-19-3]
- EINECS-No.: 205-182-7
- Solub. in water: (20 °C): 1 g/l
- Melting point: 121,6 °C
- Boiling point: 285 °C
- Flash pt. 153 °C
- Vapour pressure: (30 °C) < 0,1 hPa
- LD 50 (oral, rat): 1960 mg/kg
- EC-Index-No.: 604-007-00-5

- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning
- GHS-H sentences: H400 - H302 - H332
- GHS-P sentences: P261 - P273 - P264 - P270 - P304 + P340 - P501a
- Tariff number: 2907 15 90 00
- Applications: analytical chemistry, for pharmaceutical use, manufacture of dyes, perfumery, in the rubber industry.



## NA0116 2-Naphthol, EssentQ®



assay (G.C.) . . . . .min. 99 %	water (K.F.) . . . . .max. 0,5 %
identity (IR-spectrum) . . . . .passes test	
residue on ignition . . . . .max. 0,1 %	

ART. NO.	VOLUME	CONTAINER
NA01160250	250 g	0

## NA0117 2-Naphthol, ExpertQ®, for analysis

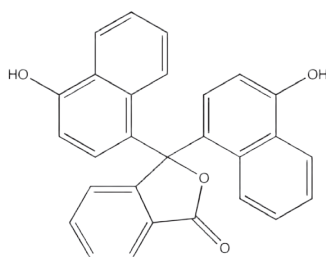


assay (G.C.) . . . . .min. 99 %	iron (Fe) . . . . .max. 0,001 %
identity (IR-spectrum) . . . . .passes test	naphthalene (G.C.) . . . . .max. 0,1 %
appearance of solution . . . . .passes test	1-naphthol (G.C.) . . . . .max. 0,1 %
chlorides (Cl) . . . . .max. 0,005 %	residue on ignition . . . . .max. 0,05 %
heavy metals (as Pb) . . . . .max. 0,001 %	water (K.F.) . . . . .max. 0,2 %

ART. NO.	VOLUME	CONTAINER
NA01170100	100 g	0

## 1-NAPHTHOLPHTHALEIN

## NA0135 1-Naphtholphthalein, indicator



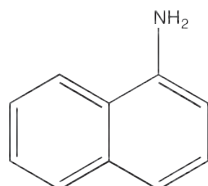
- Synonyms: 3,3-Bis(4-hydroxynaphthalenyl)-1(3H)-isobenzofuranone, p-a-Naphtholphthalein
- $C_{28}H_{18}O_4$
- $M = 418,45 \text{ g/mol}$
- CAS [596-01-0]
- EINECS-No.: 209-875-5
- Solub. in water: (20 °C): almost insoluble
- Melting point: 253 - 255 °C
- Tariff number: 3204 19 00 90
- Applications: analytical chemistry, indicator.

pH range (colourless-reddish to blue green) . . . . . 7,3 - 8,7

ART. NO.	VOLUME	CONTAINER
NA01350001	1 g	0

## 1-NAPHTHYLAMINE

## NA0047 1-Naphthylamine, EssentQ®



- Synonyms: 1-Aminonaphthalene
- $C_{10}H_9N$
- $M = 143,19 \text{ g/mol}$
- CAS [134-32-7]
- EINECS-No.: 205-138-7
- Solub. in water: (20 °C): 2 g/l
- Melting point: 48 - 50 °C
- Boiling point: (16 hPa) 160 °C
- Flash pt. 157 °C
- Ignition temp.: 460 °C
- Vapour pressure: (20 °C) 0,003 hPa
- LD 50 (oral, rat): 680 mg/kg
- EC-Index-No.: 612-020-00-2
- ADR: 6.1 T2 III UN 2077
- IMDG: 6.1 III UN 2077
- IATA/ICAO: 6.1 III UN 2077
- GHS-signal word: Warning
- GHS-H sentences: H302 - H411
- GHS-P sentences: P273 - P264 - P270 - P330 - P391 - P501a
- Tariff number: 2921 45 00 40
- Applications: synthesis of organic products, manufacture of dyes.
- Appearance: White to brown solid

assay (G.C.) . . . . .min. 99 %  
identity (IR-spectrum) . . . . .passes test  
water (K.F.) . . . . .max. 0,5 %

ART. NO.	VOLUME	CONTAINER
NA00471000	1 kg	0

## NESSLER'S REAGENT

## RE0050 Nessler's reagent



- Density: 1,16 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 CT1 II UN 2922
- IMDG: 8 II UN 2922
- IATA/ICAO: 8 II UN 2922
- GHS-signal word: Danger
- GHS-H sentences: H314 - H373 - H302 - H312 - H332 - H411
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, nitrogen determinations (ammonium).

suitability for determination of ammonia and ammonium salts. . . . .passes test

ART. NO.	VOLUME	CONTAINER
RE00500250	250 ml	0

## NEUTRAL DETERGENT FIBRE REAGENT

RE0015 Neutral detergent fibre reagent, NDF according to Van Soest



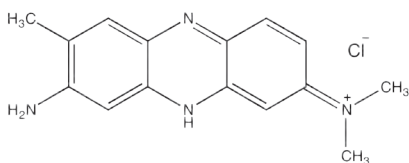
- Density: 1,016 g/cm<sup>3</sup>
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: for neutral detergent fibre determination in animal feed.

composition (in 1 l. distilled water):  
 EDTA ..... 18,61 g  
 sodium lauryl sulfate ..... 30,00 g  
 sodium tetraborate ..... 6,81 g  
 di-sodium hydrogen phosphate ..... 4,56 g  
 triethylene glycol ..... 10 ml

ART. NO.	VOLUME	CONTAINER
RE00151000	1 l	
RE0015005P	5 l	

## NEUTRAL RED, C.I. 50040

RO0190 Neutral red, C.I. 50040, for microscopy and indicator



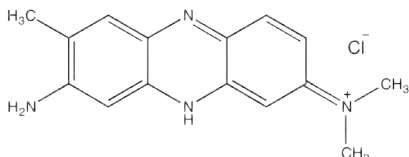
- Synonyms: Toluylene red, Basic Red 5
- C<sub>15</sub>H<sub>17</sub>ClN<sub>4</sub>
- M = 288,78 g/mol
- CAS [553-24-2]
- EINECS-No.: 209-035-8
- Solub. in water: (25 °C): 50 g/l
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 3204 13 00 90
- Applications: indicator, microscopy.

assay (espectrophotometric) ..... min. 76 %  
 Absorption maximum λ max  
 (in ethanol 50 %) ..... 539 - 544 nm  
 Absorptivity (A1%/1 cm; λ max;  
 0,0005 %, ethanol 50 %) ..... 1395 - 1550  
 related substances (TLC) ..... passes test  
 suitability for microscopy ..... passes test  
 loss on drying (110 °C) ..... max. 10 %

ART. NO.	VOLUME	CONTAINER
RO01900010	10 g	
RO01900025	25 g	

## NEUTRAL RED, SOLUTION 0,1%, INDICATOR

RO0191 Neutral red, solution 0,1%, indicator



- C<sub>15</sub>H<sub>17</sub>ClN<sub>4</sub>
- M = 288,78 g/mol
- CAS [553-24-2]
- EINECS-No.: 209-035-8
- Flash pt. 44 °C
- ADR: 3 F1 III UN 1993
- IMDG: 3 III UN 1993
- IATA/ICAO: 3 III UN 1993
- GHS-signal word: Warning
- GHS-H sentences: H226
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 3204 13 00 90
- Applications: analytical chemistry, laboratory reagent, indicator.

pH range (red to yellow-orange) ..... 6,8 - 8,0

ART. NO.	VOLUME	CONTAINER
RO01910100	100 ml	

## NICKEL

NI0132 Nickel, powder, EssentQ®



- Ni
- M = 58,71 g/mol
- CAS [7440-02-0]
- EINECS-No.: 231-111-4
- Solub. in water: (20 °C): insoluble
- Melting point: 1453 °C
- Boiling point: 2832 °C
- LD 50 (oral, rat): > 9000 mg/kg
- EC-Index-No.: 028-002-00-7
- GHS-signal word: Danger

- GHS-H sentences: H372 - H351 - H317
- GHS-P sentences: P260 - P261 - P280 - P321 - P405 - P501a
- Tariff number: 7504 00 00 00
- Applications: metal alloys, electrolyte for batteries, in the electronic industry, catalyst (synthesis of organic products), manufacture of glass.

assay ..... min. 99,8 %  
 sulphur (S) ..... max. 0,001 %  
 iron (Fe) ..... max. 0,005 %

ART. NO.	VOLUME	CONTAINER
NI01320250	250 g	
NI01321000	1 kg	

## NICKEL(II) CHLORIDE HEXAHYDRATE

- Synonyms: Nickel dichloride hexahydrate
- $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$
- $M = 237,71 \text{ g/mol}$
- CAS [7791-20-0]
- EINECS-No.: 231-743-0
- Solub. in water: (20 °C): 553 g/l
- Melting point: 140 °C (release of crystalline water)
- Vapour pressure: (671 °C) 1,3 hPa (anhydrous substance)
- LD 50 (oral, rat): 105 mg/kg
- ADR: 6.1 T5 III UN 3288
- IMDG: 6.1 III UN 3288
- IATA/ICAO: 6.1 III UN 3288
- GHS-signal word: Danger
- GHS-H sentences: H301 - H400 - H410 - H317
- GHS-P sentences: P261 - P280 - P321 - P363 - P405 - P501a
- Tariff number: 2827 35 00 00
- Applications: analytical chemistry, laboratory reagent, manufacturing of inks.

### NI0138 Nickel(II) chloride hexahydrate, EssentQ®



assay (complexometric) . . . . . min. 98 %	copper (Cu) . . . . . max. 0,01 %
insoluble in water . . . . . max. 0,025 %	iron (Fe) . . . . . max. 0,005 %
pH (5 %, $\text{H}_2\text{O}$ ) . . . . . min. 3	lead (Pb) . . . . . max. 0,002 %
sulfates ( $\text{SO}_4$ ) . . . . . max. 0,01 %	zinc (Zn) . . . . . max. 0,05 %
calcium (Ca) . . . . . max. 0,03 %	non precipitable with $(\text{NH}_4)_2\text{S}$ (as $\text{SO}_4$ ) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
NI01380250	250 g	
NI01381000	1 kg	

### NI0139 Nickel(II) chloride hexahydrate, ExpertQ®, for analysis



assay (complexometric) . . . . . min. 98,5 %	cobalt (Co) . . . . . max. 0,005 %
identity . . . . . passes test	copper (Cu) . . . . . max. 0,001 %
insoluble in water . . . . . max. 0,005 %	iron (Fe) . . . . . max. 0,001 %
pH (5 %, $\text{H}_2\text{O}$ ) . . . . . 3,5 - 6,5	lead (Pb) . . . . . max. 0,002 %
sulfates ( $\text{SO}_4$ ) . . . . . max. 0,005 %	sodium (Na) . . . . . max. 0,01 %
calcium (Ca) . . . . . max. 0,005 %	zinc (Zn) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
NI01390250	250 g	
NI01391000	1 kg	
NI0139005P	5 kg	

## NICKEL(II) NITRATE HEXAHYDRATE

### NI0150 Nickel(II) nitrate hexahydrate, EssentQ®



- $\text{Ni}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$
- $M = 290,81 \text{ g/mol}$
- CAS [13478-00-7]
- EINECS-No.: 236-068-5
- Solub. in water: (20 °C): soluble
- Melting point: 56,7 °C
- Boiling point: 136,7 °C
- LD 50 (oral, rat): 1620 mg/kg
- ADR: 5.1 O2 III UN 2725
- IMDG: 5.1 III UN 2725
- IATA/ICAO: 5.1 III UN 2725
- GHS-signal word: Danger
- GHS-H sentences: H272 - H302 + H332 - H315 - H318 - H334 - H317 - H341 - H350 - H360D - H372 - H410
- GHS-P sentences: P221 - P210 - P280 - P273 - P305 + P351 + P338 - P308 + P313
- Tariff number: 2834 29 20 00
- Applications: analytical chemistry, laboratory reagent, in the ceramics industry.
- Appearance: Blue-green-emerald crystals

assay (complexometric) . . . . . min. 98 %
chlorides (Cl) . . . . . max. 0,003 %
sulfates ( $\text{SO}_4$ ) . . . . . max. 0,03 %
calcium (Ca) . . . . . max. 0,2 %
cobalt (Co) . . . . . max. 0,01 %
copper (Cu) . . . . . max. 0,002 %
iron (Fe) . . . . . max. 0,005 %
lead (Pb) . . . . . max. 0,005 %
zinc (Zn) . . . . . max. 0,05 %
non precipitable with $(\text{NH}_4)_2\text{S}$ (as $\text{SO}_4$ ) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
NI01500250	250 g	
NI01501000	1 kg	
NI0150005P	5 kg	

## NICKEL(II) SULFATE HEXAHYDRATE

- $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$
- $M = 262,86 \text{ g/mol}$
- CAS [10101-97-0]
- EINECS-No.: 232-104-9
- Solub. in water: (20 °C): 625 g/l
- Melting point: 53 °C
- LD 50 (oral, rat): 264 mg/kg
- EC-Index-No.: 028-009-00-5
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Danger
- GHS-H sentences: H334 - H351 - H400 - H410 - H302 - H317
- GHS-P sentences: P285 - P261 - P280 - P321 - P405 - P501a
- Tariff number: 2833 24 00 00
- Applications: laboratory reagent, for organometallic compounds synthesizing, manufacture of dyes and painting.

### NI0179 Nickel(II) sulfate hexahydrate, EssentQ®



assay (complexometric) . . . . . 98 - 102 %	cobalt (Co) . . . . . max. 0,02 %
insoluble in water . . . . . max. 0,025 %	copper (Cu) . . . . . max. 0,005 %
pH (5 %, $\text{H}_2\text{O}$ ) . . . . . 4 - 6	iron (Fe) . . . . . max. 0,005 %
chlorides (Cl) . . . . . max. 0,005 %	lead (Pb) . . . . . max. 0,002 %
nitrogen compounds (as N) . . . . . max. 0,005 %	zinc (Zn) . . . . . max. 0,005 %
arsenic (As) . . . . . max. 0,001 %	non precipitable with $(\text{NH}_4)_2\text{S}$ (as $\text{SO}_4$ ) . . . . . max. 0,5 %
cadmium (Cd) . . . . . max. 0,005 %	



ART. NO.	VOLUME	CONTAINER
NI01790250	250 g	
NI01791000	1 kg	

NI0180 Nickel(II) sulfate hexahydrate, ExpertQ®, for analysis, ACS



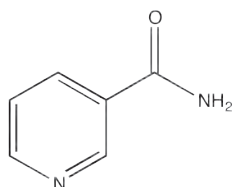
assay (complexometric) . . . . . 99 - 102 %  
 identity . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4 - 6  
 chlorides (Cl) . . . . . max. 0,001 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,005 %  
 cobalt (Co) . . . . . max. 0,002 %

copper (Cu) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,001 %  
 magnesium (Mg) . . . . . max. 0,005 %  
 manganese (Mn) . . . . . max. 0,002 %  
 potassium (K) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,03 %  
 zinc (Zn) . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
NI01800250	250 g	
NI01801000	1 kg	
NI0180005P	5 kg	
NI0180025P	25 kg	

## NICOTINAMIDE

NI0035 Nicotinamide, EssentQ®



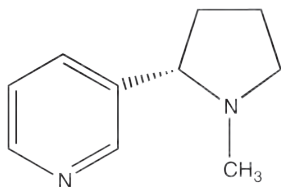
- Synonyms: Niacinamide, 3-Pyridinecarboxamide
- C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O
- M = 122,13 g/mol
- CAS [98-92-0]
- EINECS-No.: 202-713-4
- Solub. in water: (20 °C): soluble
- Melting point: 128 - 131 °C (sublimes)
- Boiling point: (0,0007 hPa) 150 - 160 °C
- Flash pt. 182 °C
- Ignition temp.: 480 °C
- LD 50 (oral, rat): 3530 - 3540 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2936 29 90 00
- Applications: synthesis of organic products, for pharmaceutical use.

assay (titration with HClO<sub>4</sub>, on dried sample) . . . . . 99 - 101 %  
 identification . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 6, 0- 7,5  
 appearance of solution . . . . . passes test  
 heavy metals (as Pb) . . . . . max. 0,003 %  
 related substances (TLC) . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (at vacuum) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
NI00350100	100 g	

## NICOTINE

NI0020 Nicotine, EssentQ®



- Synonyms: 3-(1-Methyl-2-pyrrolidinyl)pyridine
- C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>
- M = 162,24 g/mol
- CAS [54-11-5]
- EINECS-No.: 200-193-3
- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -79 °C
- Boiling point: 246 °C
- Flash pt. 101 °C
- Ignition temp.: 240 °C
- Vapour pressure: (62 °C) 1,3 hPa
- LD 50 (oral, rat): 50 mg/kg
- EC-Index-No.: 614-001-00-4
- ADR: 6.1 T1 II UN 1654
- IMDG: 6.1 II UN 1654
- IATA/ICAO: 6.1 II UN 1654
- GHS-signal word: Danger
- GHS-H sentences: H301 - H310 - H411
- GHS-P sentences: P280 - P361 - P321 - P322 - P405 - P501a
- Tariff number: 2939 99 00 00
- Applications: synthesis of organic products, insecticide, fumigant.
- Appearance: Colourless to yellowish liquid

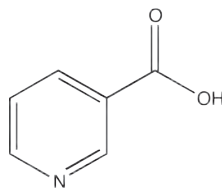
assay (G.C.) . . . . . min. 97 %  
 identity (IR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
NI00200100	100 ml	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## NICOTINIC ACID

AC1590 Nicotinic acid, extra pure, Pharmapur®, Ph Eur, BP, USP



- Synonyms: Niacin, 3-Pyridinecarboxylic acid
- $C_6H_5NO_2$
- M = 123,12 g/mol
- CAS [59-67-6]
- EINECS-No.: 200-441-0
- Solub. in water: (20 °C): 18 g/l
- Melting point: 236,6 °C
- Flash pt. 193 °C
- Ignition temp.: > 365 °C (dust)
- LD 50 (oral, rat): 7000 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2936 29 90 00
- Applications: synthesis of organic products, for pharmaceutical use, in pharma industry.

assay (acidimetric, referred to dried sample) . . . . . 99,5 - 100,5 %  
 Assay (HPLC, referred to dried sample) . . . . . 98,0 - 102,0 %  
 identification . . . . . passes test  
 chlorides (Cl) . . . . . max. 200 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,02 %  
 related substances . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (105 °C) . . . . . max. 1,0 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.

ART. NO.	VOLUME	CONTAINER
AC15901000	1 kg	

## NIGROSINE, WATER SOLUBLE, C.I. 50420

N10062 Nigrosine, water soluble, C.I. 50420, for microscopy

- CAS [101357-32-8]
- EINECS-No.: 309-930-4
- Solub. in water: (20 °C): 10 g/l
- Tariff number: 3204 12 00 00
- Applications: indicator, microscopy.

Absorption maximum  $\lambda$   
 (in ethanol 50 %) . . . . . 570 - 580 nm  
 Absorptivity (A1%/1 cm;  $\lambda$  max.) . . . . . 200 - 300  
 loss on drying (110 °C) . . . . . max. 15 %

ART. NO.	VOLUME	CONTAINER
N100620050	50 g	

## NITRIC ACID, 69%

- HNO<sub>3</sub>
- M = 63,01 g/mol
- CAS [7697-37-2]
- EINECS-No.: 231-714-2
- Density: 1,41 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -41 °C

- Boiling point: 122 °C
- Vapour pressure: (20 °C) 9,4 hPa
- EC-Index-No.: 007-004-00-1
- ADR: 8 CO1 II UN 2031
- IMDG: 8 II UN 2031
- IATA/ICAO: 8 II UN 2031
- GHS-signal word: Danger





- GHS-H sentences: H314 - H272
- GHS-P sentences: P221 - P210 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2808 00 00 00
- Applications: oxidizing agent, synthesis of nitrates and organic nitro compounds.

AC1600 Nitric acid, min. 69,5%, ExpertQ®, for analysis, ACS, ISO



assay (acidimetric) . . . . . min. 69 %  
 colour (Hazen) . . . . . max. 10  
 chlorides (Cl) . . . . . max. 0,00005 %  
 fluorides (F) . . . . . max. 0,0001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00005 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 arsenic (As) . . . . . max 0,01 ppm  
 barium (Ba) . . . . . max 0,01 ppm  
 beryllium (Be) . . . . . max 0,01 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max 0,01 ppm  
 calcium (Ca) . . . . . max. 0,1 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max 0,01 ppm  
 copper (Cu) . . . . . max 0,01 ppm  
 germanium (Ge) . . . . . max. 0,05 ppm  
 heavy metals (as Pb) . . . . . max. 0,2 ppm

iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max 0,01 ppm  
 lithium (Li) . . . . . max 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max 0,01 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max 0,01 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max 0,01 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,1 ppm  
 vanadium (V) . . . . . max 0,01 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 zirconium (Zr) . . . . . max. 0,1 ppm  
 residue on ignition (as SO<sub>4</sub>) . . . . . max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC16001000	1 l	
AC16001001	1 l	
AC16002500	2,5 l	
AC16002501	2,5 l	

AC1607 Nitric Acid, min. 69%, ExpertQ®, for analysis, ACS, ISO, max. 0,000005% Hg



assay (acidimetric) . . . . . min. 69 %  
 chlorides (Cl) . . . . . max. 0,00005 %  
 fluorides (F) . . . . . max. 0,0001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,00005 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 arsenic (As) . . . . . max 0,01 ppm  
 barium (Ba) . . . . . max 0,01 ppm  
 beryllium (Be) . . . . . max 0,01 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max 0,01 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,1 ppm  
 cobalt (Co) . . . . . max 0,01 ppm  
 copper (Cu) . . . . . max 0,01 ppm  
 germanium (Ge) . . . . . max. 0,05 ppm  
 heavy metals (as Pb) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,2 ppm

lead (Pb) . . . . . max 0,01 ppm  
 lithium (Li) . . . . . max 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max 0,01 ppm  
 mercury (Hg) . . . . . max. 0,005 ppm  
 molybdenum (Mo) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,05 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max 0,01 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max 0,01 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,1 ppm  
 vanadium (V) . . . . . max 0,01 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 zirconium (Zr) . . . . . max. 0,1 ppm  
 residue on ignition (as SO<sub>2</sub>) . . . . . max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC16071000	1 l	0
AC16072500	2,5 l	0

AC1617 Nitric acid, 69%, Ultratrace®, ppb-trace analysis grade



assay (acidimetric) . . . . . 67 - 70 %  
 colour (Hazen) . . . . . max. 10  
 chlorides (Cl) . . . . . max. 200 ppb  
 total phosphorus (P) . . . . . max. 10 ppb  
 total sulfur (S) . . . . . max. 300 ppb  
 aluminium (Al) . . . . . max. 1 ppb  
 antimony (Sb) . . . . . max. 0,5 ppb  
 arsenic (As) . . . . . max. 0,5 ppb  
 barium (Ba) . . . . . max. 0,1 ppb  
 beryllium (Be) . . . . . max. 0,1 ppb  
 bismuth (Bi) . . . . . max. 0,1 ppb  
 boron (B) . . . . . max. 1 ppb  
 cadmium (Cd) . . . . . max. 0,5 ppb  
 calcium (Ca) . . . . . max. 1 ppb  
 cerium (Ce) . . . . . max. 0,1 ppb  
 cesium (Cs) . . . . . max. 0,1 ppb  
 chromium (Cr) . . . . . max. 1 ppb  
 cobalt (Co) . . . . . max. 0,5 ppb  
 copper (Cu) . . . . . max. 0,5 ppb  
 dysprosium (Dy) . . . . . max. 0,1 ppb  
 erbium (Er) . . . . . max. 0,1 ppb  
 europium (Eu) . . . . . max. 0,1 ppb  
 gadolinium (Gd) . . . . . max. 0,1 ppb  
 gallium (Ga) . . . . . max. 0,1 ppb  
 germanium (Ge) . . . . . max. 0,1 ppb  
 gold (Au) . . . . . max. 0,1 ppb  
 hafnium (Hf) . . . . . max. 0,1 ppb  
 holmium (Ho) . . . . . max. 0,1 ppb  
 indium (In) . . . . . max. 0,1 ppb  
 iron (Fe) . . . . . max. 1 ppb  
 lanthanum (La) . . . . . max. 0,1 ppb  
 lead (Pb) . . . . . max. 0,1 ppb  
 lithium (Li) . . . . . max. 0,1 ppb  
 lutetium (Lu) . . . . . max. 0,1 ppb  
 magnesium (Mg) . . . . . max. 1 ppb

manganese (Mn) . . . . . max. 0,1 ppb  
 mercury (Hg) . . . . . max. 0,1 ppb  
 molybdenum (Mo) . . . . . max. 0,1 ppb  
 neodymium (Nd) . . . . . max. 0,1 ppb  
 nickel (Ni) . . . . . max. 0,5 ppb  
 niobium (Nb) . . . . . max. 0,1 ppb  
 palladium (Pd) . . . . . max. 0,5 ppb  
 platinum (Pt) . . . . . max. 0,5 ppb  
 potassium (K) . . . . . max. 1 ppb  
 praseodymium (Pr) . . . . . max. 0,1 ppb  
 rhenium (Re) . . . . . max. 0,1 ppb  
 rhodium (Rh) . . . . . max. 0,5 ppb  
 rubidium (Rb) . . . . . max. 0,1 ppb  
 ruthenium (Ru) . . . . . max. 0,5 ppb  
 samarium (Sm) . . . . . max. 0,1 ppb  
 scandium (Sc) . . . . . max. 0,1 ppb  
 selenium (Se) . . . . . max. 1 ppb  
 silver (Ag) . . . . . max. 0,1 ppb  
 sodium (Na) . . . . . max. 1 ppb  
 strontium (Sr) . . . . . max. 0,1 ppb  
 tellurium (Te) . . . . . max. 0,1 ppb  
 terbium (Tb) . . . . . max. 0,1 ppb  
 thallium (Tl) . . . . . max. 0,1 ppb  
 thorium (Th) . . . . . max. 0,1 ppb  
 thulium (Tm) . . . . . max. 0,1 ppb  
 tin (Sn) . . . . . max. 0,5 ppb  
 titanium (Ti) . . . . . max. 0,5 ppb  
 tungsten (W) . . . . . max. 0,1 ppb  
 uranium (U) . . . . . max. 0,1 ppb  
 vanadium (V) . . . . . max. 0,5 ppb  
 ytterbium (Yb) . . . . . max. 0,1 ppb  
 yttrium (Y) . . . . . max. 0,1 ppb  
 zinc (Zn) . . . . . max. 0,5 ppb  
 zirconium (Zr) . . . . . max. 0,1 ppb

ART. NO.	VOLUME	CONTAINER
AC16170500	500 ml	0
AC16171000	1 l	0
AC16172500	2,5 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z



## AC1618 Nitric acid, 69%, Ultratrace®, ppt-trace analysis grade



assay (acidimetric) . . . . .	67 - 70 %	mercury (Hg) . . . . .	max. 50 ppt
aluminium (Al) . . . . .	max. 20 ppt	molybdenum (Mo) . . . . .	max. 10 ppt
antimony (Sb) . . . . .	max. 10 ppt	neodymium (Nd) . . . . .	max. 1 ppt
arsenic (As) . . . . .	max. 20 ppt	nickel (Ni) . . . . .	max. 20 ppt
barium (Ba) . . . . .	max. 10 ppt	niobium (Nb) . . . . .	max. 1 ppt
beryllium (Be) . . . . .	max. 10 ppt	palladium (Pd) . . . . .	max. 20 ppt
bismuth (Bi) . . . . .	max. 10 ppt	platinum (Pt) . . . . .	max. 20 ppt
boron (B) . . . . .	max. 10 ppt	potassium (K) . . . . .	max. 10 ppt
cadmium (Cd) . . . . .	max. 10 ppt	praseodymium (Pr) . . . . .	max. 1 ppt
calcium (Ca) . . . . .	max. 10 ppt	rhenium (Re) . . . . .	max. 10 ppt
cerium (Ce) . . . . .	max. 10 ppt	rhodium (Rh) . . . . .	max. 10 ppt
cesium (Cs) . . . . .	max. 10 ppt	rubidium (Rb) . . . . .	max. 10 ppt
chromium (Cr) . . . . .	max. 10 ppt	ruthenium (Ru) . . . . .	max. 20 ppt
cobalt (Co) . . . . .	max. 10 ppt	samarium (Sm) . . . . .	max. 1 ppt
copper (Cu) . . . . .	max. 10 ppt	scandium (Sc) . . . . .	max. 10 ppt
dysprosium (Dy) . . . . .	max. 1 ppt	silver (Ag) . . . . .	max. 10 ppt
erbium (Er) . . . . .	max. 1 ppt	sodium (Na) . . . . .	max. 10 ppt
europium (Eu) . . . . .	max. 1 ppt	strontium (Sr) . . . . .	max. 10 ppt
gadolinium (Gd) . . . . .	max. 1 ppt	tellurium (Te) . . . . .	max. 1 ppt
gallium (Ga) . . . . .	max. 10 ppt	terbium (Tb) . . . . .	max. 1 ppt
germanium (Ge) . . . . .	max. 10 ppt	thallium (Tl) . . . . .	max. 10 ppt
gold (Au) . . . . .	max. 20 ppt	thorium (Th) . . . . .	max. 1 ppt
hafnium (Hf) . . . . .	max. 10 ppt	thulium (Tm) . . . . .	max. 1 ppt
holmium (Ho) . . . . .	max. 1 ppt	tin (Sn) . . . . .	max. 20 ppt
indium (In) . . . . .	max. 1 ppt	titanium (Ti) . . . . .	max. 10 ppt
iron (Fe) . . . . .	max. 10 ppt	tungsten (W) . . . . .	max. 10 ppt
lanthanum (La) . . . . .	max. 1 ppt	uranium (U) . . . . .	max. 1 ppt
lead (Pb) . . . . .	max. 10 ppt	vanadium (V) . . . . .	max. 10 ppt
lithium (Li) . . . . .	max. 10 ppt	ytterbium (Yb) . . . . .	max. 1 ppt
lutetium (Lu) . . . . .	max. 1 ppt	yttrium (Y) . . . . .	max. 1 ppt
magnesium (Mg) . . . . .	max. 10 ppt	zinc (Zn) . . . . .	max. 10 ppt
manganese (Mn) . . . . .	max. 10 ppt	zirconium (Zr) . . . . .	max. 10 ppt

ART. NO.	VOLUME	CONTAINER
AC16180250	250 ml	
AC16180500	500 ml	
AC16181000	1 l	

## NITRIC ACID, 65%

- HNO<sub>3</sub>
- M = 63,01 g/mol
- CAS [7697-37-2]
- EINECS-No.: 231-714-2
- Density: 1,41 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -31 °C
- Boiling point: 122 °C

- Vapour pressure: (20 °C) 9,4 hPa
- EC-Index-No.: 007-004-00-1
- ADP: 8 CO1 II UN 2031
- IMDG: 8 II UN 2031
- IATA/ICAO: 8 II UN 2031
- GHS-signal word: Danger
- GHS-H sentences: H314 - H272 - H290 - H331 - EUH071 -

- GHS-P sentences: P221 - P210 - P303 + P361 + P533 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2808 00 00 00
- Applications: oxidizing agent, synthesis of nitrates and organic nitro compounds, in pharma industry.
- Appearance: Incoloro

## AC1599 Nitric acid, solution 65% w/w, EssentQ®



assay (acidimetric) . . . . .	64 - 66 %	iron (Fe) . . . . .	max. 1 ppm
chlorides (Cl) . . . . .	max. 0,0001 %	lead (Pb) . . . . .	max. 0,5 ppm
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,0002 %	residue on ignition (as SO <sub>2</sub> ) . . . . .	max. 0,0005 %
arsenic (As) . . . . .	max. 0,05 ppm		
calcium (Ca) . . . . .	max. 5 ppm		
copper (Cu) . . . . .	max. 0,5 ppm		
heavy metals (as Pb) . . . . .	max. 0,5 ppm		

ART. NO.	VOLUME	CONTAINER
AC15991000	1 l	
AC15992500	2,5 l	
AC1599005P	5 l	
AC1599025P	25 l	

## AC1601 Nitric acid, solution min. 65% w/w, ISO, Reag. Ph Eur, for determinations with dithizone



assay (acidimetric) . . . . .	min. 65 %	iron (Fe) . . . . .	max. 0,1 ppm
chlorides (Cl) . . . . .	max. 0,00002 %	lead (Pb) . . . . .	max. 0,01 ppm
fluorides (F) . . . . .	max. 0,0001 %	lithium (Li) . . . . .	max. 0,01 ppm
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,00002 %	magnesium (Mg) . . . . .	max. 0,05 ppm
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,00005 %	manganese (Mn) . . . . .	max. 0,01 ppm
aluminium (Al) . . . . .	max. 0,05 ppm	molybdenum (Mo) . . . . .	max. 0,01 ppm
arsenic (As) . . . . .	max. 0,01 ppm	nickel (Ni) . . . . .	max. 0,02 ppm
barium (Ba) . . . . .	max. 0,01 ppm	platinum (Pt) . . . . .	max. 0,1 ppm
beryllium (Be) . . . . .	max. 0,01 ppm	potassium (K) . . . . .	max. 0,1 ppm
bismuth (Bi) . . . . .	max. 0,02 ppm	silver (Ag) . . . . .	max. 0,01 ppm
cadmium (Cd) . . . . .	max. 0,01 ppm	sodium (Na) . . . . .	max. 0,2 ppm
calcium (Ca) . . . . .	max. 0,1 ppm	strontium (Sr) . . . . .	max. 0,01 ppm
chromium (Cr) . . . . .	max. 0,02 ppm	thallium (Tl) . . . . .	max. 0,02 ppm
cobalt (Co) . . . . .	max. 0,01 ppm	titanium (Ti) . . . . .	max. 0,02 ppm
copper (Cu) . . . . .	max. 0,01 ppm	vanadium (V) . . . . .	max. 0,01 ppm
gallium (Ga) . . . . .	max. 0,05 ppm	zinc (Zn) . . . . .	max. 0,02 ppm
germanium (Ge) . . . . .	max. 0,02 ppm	zirconium (Zr) . . . . .	max. 0,02 ppm
gold (Au) . . . . .	max. 0,05 ppm	residue on ignition (as SO <sub>2</sub> ) . . . . .	max. 0,0003 %
heavy metals (as Pb) . . . . .	max. 0,2 ppm	suitability for det. with dithizone. . . . .	passes test
indium (In) . . . . .	max. 0,02 ppm		

ART. NO.	VOLUME	CONTAINER
AC16011000	1 l	
AC16011001	1 l	
AC16012500	2,5 l	
AC16012501	2,5 l	
AC1601005P	5 l	
AC1601025P	25 l	

AC1605 Nitric Acid, solution min. 65% w/w, ExpertQ®, for analysis, ISO, max. 0,0000005% Hg



assay (acidimetric) . . . . .	min. 65 %
chlorides (Cl) . . . . .	max. 0,00002 %
fluorides (F) . . . . .	max. 0,0001 %
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,00002 %
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,00005 %
aluminium (Al) . . . . .	max. 0,05 ppm
arsenic (As) . . . . .	max 0,01 ppm
barium (Ba) . . . . .	max 0,01 ppm
beryllium (Be) . . . . .	max 0,01 ppm
bismuth (Bi) . . . . .	max. 0,1 ppm
cadmium (Cd) . . . . .	max 0,01 ppm
calcium (Ca) . . . . .	max. 0,1 ppm
chromium (Cr) . . . . .	max. 0,02 ppm
cobalt (Co) . . . . .	max 0,01 ppm
copper (Cu) . . . . .	max 0,01 ppm
gallium (Ga) . . . . .	max. 0,05 ppm
germanium (Ge) . . . . .	max. 0,02 ppm
gold (Au) . . . . .	max. 0,05 ppm
heavy metals (as Pb) . . . . .	max. 0,2 ppm
indium (In) . . . . .	max. 0,02 ppm

iron (Fe) . . . . .	max. 0,1 ppm
lead (Pb) . . . . .	max 0,01 ppm
lithium (Li) . . . . .	max 0,01 ppm
magnesium (Mg) . . . . .	max. 0,05 ppm
manganese (Mn) . . . . .	max 0,01 ppm
mercury (Hg) . . . . .	max. 0,005 ppm
molybdenum (Mo) . . . . .	max 0,01 ppm
nickel (Ni) . . . . .	max. 0,02 ppm
platinum (Pt) . . . . .	max. 0,1 ppm
potassium (K) . . . . .	max. 0,1 ppm
silver (Ag) . . . . .	max 0,01 ppm
sodium (Na) . . . . .	max. 0,2 ppm
strontium (Sr) . . . . .	max 0,01 ppm
thallium (Tl) . . . . .	max. 0,02 ppm
titanium (Ti) . . . . .	max. 0,02 ppm
vanadium (V) . . . . .	max 0,01 ppm
zinc (Zn) . . . . .	max. 0,02 ppm
zirconium (Zr) . . . . .	max. 0,02 ppm
residue on ignition (as SO <sub>4</sub> ) . . . . .	max. 0,0003 %

ART. NO.	VOLUME	CONTAINER
AC16051000	1 l	0
AC16052500	2,5 l	0

**NITRIC ACID, 60%**

- HNO<sub>3</sub>
- M = 63,01 g/mol
- CAS [7697-37-2]
- EINECS-No.: 231-714-2
- Density: 1,37 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -22 °C

- Boiling point: ~ 120 °C
- EC-Index-No.: 007-004-00-1
- ADR: 8 C1 II UN 2031
- IMDG: 8 II UN 2031
- IATA/ICAO: 8 II UN 2031
- GHS-signal word: Danger
- GHS-H sentences: H314 - H272

- GHS-P sentences: P221 - P210 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2808 00 00 00
- Applications: oxidizing agent, synthesis of nitrates and organic nitro compounds.

AC1598 Nitric acid, solution 60% w/w, EssentQ®



assay (acidimetric) . . . . .	approx. 60 %
chlorides (Cl) . . . . .	max. 0,0003 %
iodates, bromates . . . . .	passes test
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,001 %
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,001 %
arsenic (As) . . . . .	max. 1 ppm
calcium (Ca) . . . . .	max. 0,001 %

heavy metals (as Pb) . . . . .	max. 5 ppm
iron (Fe) . . . . .	max. 5 ppm
residue on evaporation . . . . .	max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AC15981000	1 l	0
AC15982500	2,5 l	0
AC1598005P	5 l	0
AC1598025P	25 l	0

AC1602 Nitric acid, solution min. 60% w/w, ExpertQ®, for analysis, ISO



assay (acidimetric) . . . . .	min. 60 %
chlorides (Cl) . . . . .	max. 0,00005 %
fluorides (F) . . . . .	max. 0,0001 %
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,0001 %
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,0001 %
aluminium (Al) . . . . .	max. 0,5 ppm
arsenic (As) . . . . .	max 0,01 ppm
barium (Ba) . . . . .	max. 0,02 ppm
beryllium (Be) . . . . .	max 0,01 ppm
bismuth (Bi) . . . . .	max. 0,1 ppm
cadmium (Cd) . . . . .	max. 0,5 ppm
calcium (Ca) . . . . .	max. 0,5 ppm
chromium (Cr) . . . . .	max. 0,1 ppm
cobalt (Co) . . . . .	max 0,01 ppm
copper (Cu) . . . . .	max 0,01 ppm
germanium (Ge) . . . . .	max. 0,05 ppm
heavy metals (as Pb) . . . . .	max. 0,2 ppm

iron (Fe) . . . . .	max. 0,2 ppm
lead (Pb) . . . . .	max 0,01 ppm
lithium (Li) . . . . .	max. 0,02 ppm
magnesium (Mg) . . . . .	max. 0,1 ppm
manganese (Mn) . . . . .	max 0,01 ppm
molybdenum (Mo) . . . . .	max. 0,02 ppm
nickel (Ni) . . . . .	max. 0,05 ppm
potassium (K) . . . . .	max. 0,1 ppm
silver (Ag) . . . . .	max 0,01 ppm
sodium (Na) . . . . .	max. 0,5 ppm
strontium (Sr) . . . . .	max 0,01 ppm
thallium (Tl) . . . . .	max. 0,05 ppm
titanium (Ti) . . . . .	max. 0,1 ppm
vanadium (V) . . . . .	max 0,01 ppm
zinc (Zn) . . . . .	max. 0,05 ppm
zirconium (Zr) . . . . .	max. 0,1 ppm
residue on ignition (as SO <sub>4</sub> ) . . . . .	max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC16021000	1 l	0
AC16022500	2,5 l	0
AC1602005P	5 l	0

AC1604 Nitric acid, solution min. 60% w/w, ExpertQ®, for analysis, ISO, max. 0,0000005% Hg



assay (acidimetric) . . . . .	min. 60 %
chlorides (Cl) . . . . .	max. 0,00005 %
fluorides (F) . . . . .	max. 0,0001 %
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,00005 %
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,00005 %
aluminium (Al) . . . . .	max. 0,05 ppm
arsenic (As) . . . . .	max 0,01 ppm
barium (Ba) . . . . .	max 0,01 ppm
beryllium (Be) . . . . .	max 0,01 ppm
bismuth (Bi) . . . . .	max. 0,1 ppm
cadmium (Cd) . . . . .	max 0,01 ppm
calcium (Ca) . . . . .	max. 0,5 ppm
chromium (Cr) . . . . .	max. 0,1 ppm
cobalt (Co) . . . . .	max 0,01 ppm
copper (Cu) . . . . .	max 0,01 ppm
germanium (Ge) . . . . .	max. 0,05 ppm
heavy metals (as Pb) . . . . .	max. 0,2 ppm
iron (Fe) . . . . .	max. 0,2 ppm

lead (Pb) . . . . .	max 0,01 ppm
lithium (Li) . . . . .	max 0,01 ppm
magnesium (Mg) . . . . .	max. 0,1 ppm
manganese (Mn) . . . . .	max 0,01 ppm
mercury (Hg) . . . . .	max. 0,005 ppm
molybdenum (Mo) . . . . .	max. 0,02 ppm
nickel (Ni) . . . . .	max. 0,05 ppm
potassium (K) . . . . .	max. 0,1 ppm
silver (Ag) . . . . .	max 0,01 ppm
sodium (Na) . . . . .	max. 0,5 ppm
strontium (Sr) . . . . .	max 0,01 ppm
thallium (Tl) . . . . .	max. 0,05 ppm
titanium (Ti) . . . . .	max. 0,1 ppm
vanadium (V) . . . . .	max 0,01 ppm
zinc (Zn) . . . . .	max. 0,05 ppm
zirconium (Zr) . . . . .	max. 0,1 ppm
residue on ignition (as SO <sub>4</sub> ) . . . . .	max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC16041000	1 l	0
AC16042500	2,5 l	0

## NITRIC ACID, VOLUMETRIC SOLUTIONS

### AC1612 Nitric acid, solution 2 mol/l (2 N)



- HNO<sub>3</sub>
- M = 63,01 g/mol
- CAS [7697-37-2]
- EINECS-No.: 231-714-2
- Density: ~ 1,07 g/cm<sup>3</sup>
- EC-Index-No.: 007-004-00-1
- ADR: 8 C1 II UN 2031
- IMDG: 8 II UN 2031
- IATA/ICAO: 8 II UN 2031
- GHS-signal word: Danger
- GHS-H sentences: H272 - H314
- GHS-P sentences: P221 - P210 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a

- Tariff number: 2808 00 00 00
  - Applications: analytical chemistry, titrant in volumetric analysis, oxidizing agent.
- factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,12602 g HNO<sub>3</sub>  
This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC16121000	1 l	Ⓜ

### AC1610 Nitric acid, solution 1 mol/l (1 N)



- HNO<sub>3</sub>
- M = 63,01 g/mol
- CAS [7697-37-2]
- EINECS-No.: 231-714-2
- Density: 1,036 g/cm<sup>3</sup>
- Melting point: ~ -4 °C
- Boiling point: ~ 101 °C
- EC-Index-No.: 007-004-00-1
- ADR: 8 C1 II UN 2031
- IMDG: 8 II UN 2031
- IATA/ICAO: 8 II UN 2031
- GHS-signal word: Danger
- GHS-H sentences: H314 - H272
- GHS-P sentences: P221 - P210 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a

- Tariff number: 2808 00 00 00
  - Applications: analytical chemistry, titrant in volumetric analysis, oxidizing agent.
- factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,06301 g HNO<sub>3</sub>  
This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC16101000	1 l	Ⓜ

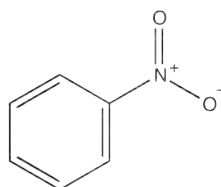
### AC1611 Nitric acid, solution 0,1 mol/l (0,1 N)

- HNO<sub>3</sub>
- M = 63,01 g/mol
- CAS [7697-37-2]
- EINECS-No.: 231-714-2
- Density: ~ 1,002 g/cm<sup>3</sup>
- EC-Index-No.: 007-004-00-1
- Tariff number: 2808 00 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, oxidizing agent.

- factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,006301 g HNO<sub>3</sub>  
This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC16111000	1 l	Ⓜ

## NITROBENZENE



- Synonyms: Nitrobenzol, Essence of mirbane
- C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub>
- M = 123,11 g/mol
- CAS [98-95-3]
- EINECS-No.: 202-716-0
- Density: 1,20 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 1,90 g/l
- Melting point: 6,0 °C
- Boiling point: 211 °C
- Flash pt. 88 °C
- Ignition temp.: 480 °C
- Vapour pressure: (20 °C) 0,3 hPa
- Refraction index: (n 20 °C/D) 1,55296
- Dielectric const.: (20 °C) 34,8

- LD 50 (oral, rat): 640 mg/kg
- EC-Index-No.: 609-003-00-7
- ADR: 6.1 T1 II UN 1662
- IMDG: 6.1 II UN 1662
- IATA/ICAO: 6.1 II UN 1662
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H331 - H372 - H351 - H361f - H411
- GHS-P sentences: P260 - P261 - P361 - P321 - P405 - P501a
- Tariff number: 2904 20 00 90
- Applications: synthesis of organic products, cosmetics, in lubricant compositions.

### NI0270 Nitrobenzene, EssentQ®



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,201 - 1,205

free acid (as HNO<sub>3</sub>) . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
NI02701000	1 l	Ⓜ

NI0273 Nitrobenzene, ExpertQ®, for analysis, ACS, Reag. Ph Eur



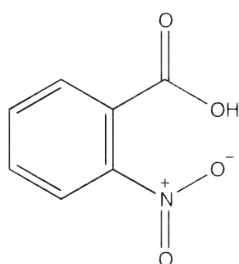
assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,201 - 1,205  
boiling point . . . . . 210 - 212 °C  
water-soluble titrable acid . . . . . max. 0,0005 meq/g  
chlorides (Cl) . . . . . max. 0,0005 %  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,02 ppm  
1,2-dinitrobenzene (G.C.) . . . . . max. 0,005 %  
1,3-dinitrobenzene (G.C.) . . . . . max. 0,005 %  
1,4-dinitrobenzene (G.C.) . . . . . max. 0,005 %  
residue on ignition . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
NI02731000	1 l	0

## 2-NITROBENZOIC ACID

AC1630 2-Nitrobenzoic acid, EssentQ®



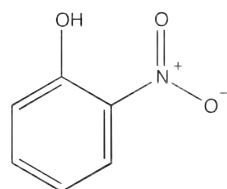
- Synonyms: o-Nitrobenzoic acid
- C<sub>7</sub>H<sub>5</sub>NO<sub>4</sub>
- M = 167,12 g/mol
- CAS [552-16-9]
- EINECS-No.: 209-004-9
- Solub. in water: (25 °C): 3,6 g/l
- Melting point: 146 - 148 °C
- GHS-signal word: Warning
- GHS-H sentences: H373
- GHS-P sentences: P260 - P314 - P501a
- Tariff number: 2916 39 00 90
- Applications: laboratory reagent, synthesis of organic products.
- Appearance: Off-white powder

assay (G.C.) . . . . . min. 85 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AC16300250	250 g	0

## o-NITROPHENOL

NI0335 o-Nitrophenol, EssentQ®

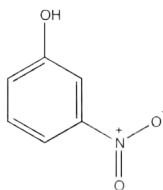


- Synonyms: 2-Nitrophenol
- C<sub>6</sub>H<sub>5</sub>NO<sub>3</sub>
- M = 139,11 g/mol
- CAS [88-75-5]
- EINECS-No.: 201-857-5
- Solub. in water: (20 °C): insoluble
- Melting point: 43 - 45 °C
- Boiling point: 215 - 216 °C
- Flash pt. 102 °C
- Vapour pressure: (49 °C) 1hPa
- LD 50 (oral, rat): 334 mg/kg
- ADR: 6.1 T2 III UN 1663
- IMDG: 6.1 III UN 1663
- IATA/ICAO: 6.1 III UN 1663
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P501a
- Tariff number: 2908 90 00 90
- Applications: laboratory reagent (glucose), synthesis of organic products, indicator.
- Appearance: Yellow solid

assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
NI03350250	250 g	0

## m-NITROPHENOL

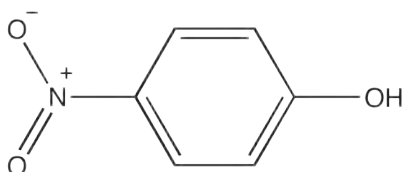
 NI0343 m-Nitrophenol, indicator 


- Synonyms: 3-Nitrophenol
- $C_6H_5NO_3$
- $M = 139,11 \text{ g/mol}$
- CAS [554-84-7]
- EINECS-No.: 209-073-5
- Solub. in water: (20 °C): insoluble
- Melting point: 94 - 95 °C
- LD 50 (oral, rat): 328 mg/kg
- ADR: 6.1 T2 III UN 1663
- IMDG: 6.1 III UN 1663
- IATA/ICAO: 6.1 III UN 1663
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P501a
- Tariff number: 2908 90 00 90
- Applications: synthesis of organic products, indicator.



assay (DSC) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 pH range (colourless to yellow) . . . . . 6,6 - 8,6

ART. NO.	VOLUME	CONTAINER
NI03430005	5 g	0

## p-NITROPHENOL



- Synonyms: 4-Nitrophenol
- $C_6H_5NO_3$
- $M = 139,11 \text{ g/mol}$
- CAS [100-02-7]
- EINECS-No.: 202-811-7
- Solub. in water: (20 °C): 11,8 g/l
- Melting point: 110 - 114 °C
- Boiling point: ~ 280 °C (decomposes)
- Flash pt. 169 °C
- Ignition temp.: ~ 495 °C
- LD 50 (oral, rat): 202 mg/kg
- EC-Index-No.: 609-015-00-2
- ADR: 6.1 T2 III UN 1663
- IMDG: 6.1 III UN 1663
- IATA/ICAO: 6.1 III UN 1663
- GHS-signal word: Warning
- GHS-H sentences: H373 - H302 - H312 - H332
- GHS-P sentences: P260 - P261 - P280 - P322 - P304 + P340 - P501a
- Tariff number: 2908 99 00 30
- Applications: analytical chemistry, laboratory reagent, indicator, synthesis of organic products.
- Appearance: Brown-yellow crystals

 NI0345 p-Nitrophenol, moistened, EssentQ®  

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 water (K.F.) . . . . . max. 5 %

ART. NO.	VOLUME	CONTAINER
NI03451000	1 kg	0

 NI0348 p-Nitrophenol, indicator  

pH range (colourless to yellow) . . . . . 5,0 - 7,6  
 insoluble in  $C_2H_5OH$  . . . . . passes test  
 residue on ignition (as  $SO_4$ ) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
NI03480100	100 g	0

# Custom-made products

- Customised solvent purification
- Mixtures of solvents
- Aqueous or organic solutions
- Flexible packaging
- Tailor-made analysis

➔ More information on page 44.



## O'MEARA'S REAGENT

RE0060 O'Meara's reagent, for microbiology



- Density: 1,24 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C5 II UN 1814
- IMDG: 8 II UN 1814
- IATA/ICAO: 8 II UN 1814
- GHS-signal word: Danger
- GHS-H sentences: H314 - H302
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

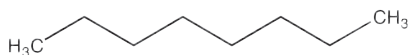
- Tariff number: 3822 00 00 00

composition:  
potassium hydroxide ..... 400 g  
creatine ..... 3 g  
distilled water ..... 1000 ml  
suitability for microbiology..... passes test

ART. NO.	VOLUME	CONTAINER
RE0060G100	100 ml	

## n-OCTANE

OC0010 Octane 80%, ASTM



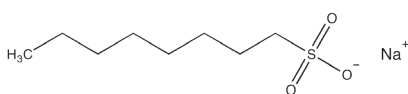
- C<sub>8</sub>H<sub>18</sub>
- M = 114,23 g/mol
- CAS [111-65-9]
- EINECS-No.: 203-892-1
- Density: 0,69 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: -57 °C
- Boiling point: 125 - 126 °C
- Flash pt. 13 °C
- Ignition temp.: 210 °C
- Vapour pressure: (20 °C) 14 hPa
- Dielectric const.: (20 °C) 1,9
- EC-Index-No.: 601-009-00-8
- ADR: 3 F1 II UN 1262
- IMDG: 3 II UN 1262
- IATA/ICAO: 3 II UN 1262
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H400 - H410 - H315 - H336
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P321 - P405 - P501a
- Tariff number: 2901 10 00 00
- Applications: analytical chemistry, reference material, chromatography.

isooctane (G.C.) ..... min. 80 %  
n-heptane (G.C.) ..... max. 20 %

ART. NO.	VOLUME	CONTAINER
OC0010025A	25 l	
OC0010200L	200 l	

## 1-OCTANE SULFONIC ACID, SODIUM SALT, HPLC SOLUTIONS

AC1700 1-Octane sulfonic acid, sodium salt, solution 0,1 mol/l, HPLC grade



- C<sub>8</sub>H<sub>17</sub>NaO<sub>3</sub>S
- M = 216,28 g/mol
- CAS [5324-84-5]
- EINECS-No.: 226-195-4
- Tariff number: 2904 10 00 90
- Applications: laboratory reagent, analytical chemistry, chromatography.

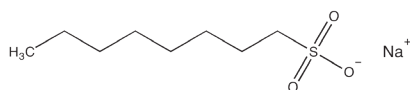
factor limits. .... 0,995 - 1,005  
pH (20 °C) ..... 3,4 - 3,6  
absorbance of an aqueous solution  
0,005 M in a 1 cm cell at 254 nm ..... < 0,02 AU  
Contains acetic acid as preservative  
To obtain a solution 0,005 M dilute 1:20 with the appropriate mixture of water-solvent

ART. NO.	VOLUME	CONTAINER
AC17001000	1 l	



## 1-OCTANE SULFONIC ACID, SODIUM SALT

AC1701 1-Octane sulfonic acid, sodium salt, HPLC grade



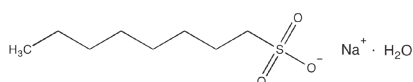
- Synonyms: Sodium 1-octylsulfonate
- $C_8H_{17}NaO_3S$
- $M = 216,28 \text{ g/mol}$
- CAS [5324-84-5]
- EINECS-No.: 226-195-4
- Solub. in water: (20 °C): soluble
- Melting point: > 300 °C
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2904 10 00 90
- Applications: analytical chemistry, chromatography.

assay (acidimetric) ..... min 99 %  
 pH (10 %,  $H_2O$ ) ..... 5,5 - 7,5  
 loss on drying ..... max. 1 %  
 0,1M in a 1cm cell at 254 nm .....  
 absorbance of an aqueous solution  
 0,1M in a 1cm cell at 254 nm ..... max. 0,045 AU  
 absorbance of an aqueous solution 0,005 M  
 in a 1 cm cell at  
 200 nm. .... max. 0,15 AU  
 220 nm. .... max. 0,05 AU

ART. NO.	VOLUME	CONTAINER
AC17010025	25 g	0
AC17010100	100 g	0

## 1-OCTANE SULFONIC ACID, SODIUM SALT MONOHYDRATE

AC1702 1-Octane sulfonic acid, sodium salt monohydrate, HPLC grade



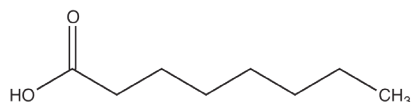
- Synonyms: Sodium 1-octylsulfonate monohydrate
- $C_8H_{17}NaO_3S \cdot H_2O$
- $M = 234,29 \text{ g/mol}$
- CAS [207596-29-0]
- Solub. in water: (20 °C): soluble
- Tariff number: 2904 10 00 90
- Applications: analytical chemistry, chromatography.

assay (acidimetric) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 insoluble matter ..... passes test  
 max. absorbance of an aqueous sol. 10 % in a 1,0 cm  
 cell at wavelength ..... absorbance  
 210 nm. .... 0,1 AU  
 220 nm. .... 0,06 AU  
 230 nm. .... 0,04 AU  
 260 nm. .... 0,02 AU

ART. NO.	VOLUME	CONTAINER
AC17020025	25 g	0
AC17020100	100 g	0

## OCTANOIC ACID

AC0670 Octanoic acid, EssentQ®

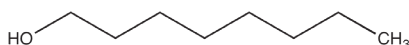


- Synonyms: Caprylic acid
- $C_8H_{16}O_2$
- $M = 144,22 \text{ g/mol}$
- CAS [124-07-2]
- EINECS-No.: 204-677-5
- Density: 0,91 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 0,68 g/l
- Melting point: 16,5 °C
- Boiling point: 237 °C
- Flash pt. 130 °C
- Ignition temp.: 440 °C
- Vapour pressure: (20 °C) < 0,1 hPa
- LD 50 (oral, rat): 10080 mg/kg
- ADR: 8 C3 III UN 3265
- IMDG: 8 III UN 3265
- IATA/ICAO: 8 III UN 3265
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2915 90 80 90
- Applications: synthesis of organic products, manufacture of dyes, perfumery.

assay (G.C.) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,909 - 0,910  
 capric acid (G.C.) ..... max. 0,5 %  
 acidity index ..... 387 - 389  
 saponifiable impurities ..... max. 0,2 %  
 iodine index ..... max. 0,2  
 residue on ignition ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC06701000	1 l	0

## n-OCTYL ALCOHOL



- Synonyms: 1-Octanol
- C<sub>8</sub>H<sub>18</sub>O
- M = 130,23 g/mol
- CAS [111-87-5]
- EINECS-No.: 203-917-6
- Density: 0,83 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: -16 °C
- Boiling point: 188 - 198 °C
- Flash pt. 81 °C
- Ignition temp.: 270 °C

- Vapour pressure: (20 °C) 0,3 hPa
- Refraction index: (n 20 °C/D) 1,4291
- LD 50 (oral, rat): > 5000 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2905 16 80 00
- Applications: laboratory reagent, synthesis of organic products, perfumery.

### AL0393 n-Octyl alcohol, EssentQ®



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,824 - 0,826  
free acid (as C<sub>7</sub>H<sub>15</sub>COOH) . . . . . max. 0,005 %

foreign alcohols . . . . . max. 1 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AL03931000	1 l	0

### AL0395 n-Octyl alcohol, ExpertQ®, for analysis



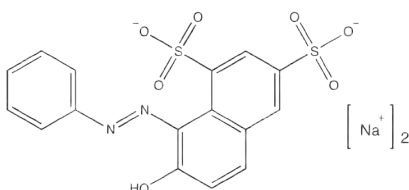
assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,824 - 0,826  
appearance . . . . . clear  
acidity . . . . . max. 0,0002 meq/g  
colour (Hazen) . . . . . max. 10  
aldehydes + ketones (as C<sub>7</sub>H<sub>15</sub>CHO) . . . . . max. 0,01 %  
arsenic (As) . . . . . max. 0,1 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
heavy metals (as Pb) . . . . . max. 0,1 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on ignition . . . . . max. 0,02 %  
water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AL03951000	1 l	0

## ORANGE G, C.I. 16230

### AN0030 Orange G, C.I. 16230, for microscopy



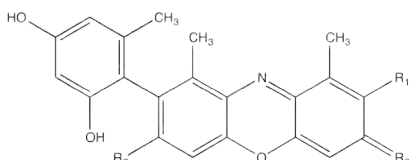
- C<sub>16</sub>H<sub>10</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>4</sub>S<sub>2</sub>
- M = 452,36 g/mol
- CAS [1936-15-8]
- EINECS-No.: 217-705-6
- Solub. in water: (20 °C): ~ 70 g/l
- LD 50 (oral, rat): > 3000 mg/kg
- Tariff number: 3204 12 00 00
- Applications: analytical chemistry, indicator, microscopy.

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AN00300025	25 g	0

## ORCEIN

### OR0020 Orcein, for microscopy



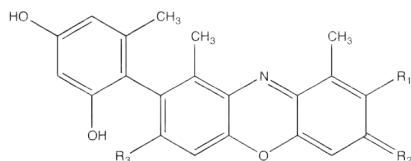
- Synonyms: Natural Red 28
- CAS [1400-62-0]
- EINECS-No.: 215-750-6
- Solub. in water: (25 °C): almost insoluble
- Tariff number: 3203 00 19 00
- Applications: microscopy, dye (for biology).

Absorption maximum λ  
(in NaOH 0,01 mol/l) . . . . . 575 - 580 nm  
Absorptivity (A1%/1 cm; λ max.) . . . . . 600 - 800

ART. NO.	VOLUME	CONTAINER
OR00200005	5 g	0
OR00200025	25 g	0

## ORCEIN, SOLUTION A

OR0021 Orcein, solution A, for microscopy



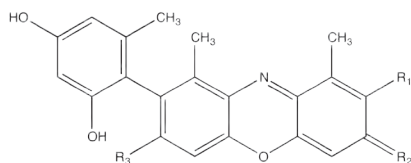
- Synonyms: Natural red 28
- CAS [1400-62-0]
- EINECS-No.: 215-750-6
- Density: 1,06 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C9 II UN 1760
- IMDG: 8 II UN 1760
- IATA/ICAO: 8 II UN 1760
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3203 00 19 00
- Applications: microscopy (dye).

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
OR00210100	100 ml	0

## ORCEIN, SOLUTION B

OR0022 Orcein, solution B, for microscopy



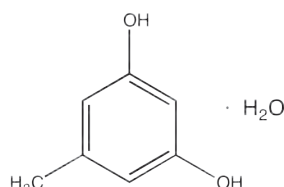
- Synonyms: Natural red 28
- CAS [1400-62-0]
- EINECS-No.: 215-750-6
- Density: 1,06 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C9 II UN 1760
- IMDG: 8 II UN 1760
- IATA/ICAO: 8 II UN 1760
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3203 00 19 00
- Applications: microscopy (dye).

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
OR00220100	100 ml	0

## ORCINOL MONOHYDRATE

OR0035 Orcinol monohydrate, Reag. Ph Eur



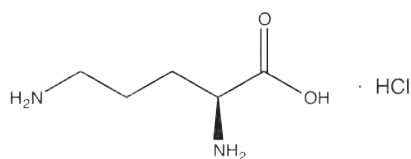
- Synonyms: 5-Methylresorcinol, 3,5-Dihydroxytoluene monohydrate
- C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>·H<sub>2</sub>O
- M = 142,15 g/mol
- CAS [6153-39-5]
- EINECS-No.: 207-984-2
- Melting point: 108-110 °C
- Boiling point: (7 hPa) 147 °C
- LD 50 (oral, rat): 844 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2907 29 00 90
- Applications: laboratory reagent, analytical chemistry, for the detection of: sugars, aromatic aldehydes.

 assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 melting range . . . . . 58 - 61 °C

ART. NO.	VOLUME	CONTAINER
OR00350005	5 g	0
OR00350025	25 g	0

## L-ORNITHINE HYDROCHLORIDE

OR0055 L-Ornithine hydrochloride, EssentQ®

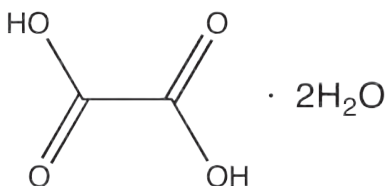


- Synonyms: L(+)2,5-Diaminopentanoic acid hydrochloride
- C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>·HCl
- M = 168,62 g/mol
- CAS [3184-13-2]
- EINECS-No.: 221-678-6
- Solub. in water: (20 °C): 100 g/l
- Melting point: 245 °C
- LD 50 (oral, rat): 10000 mg/kg
- Tariff number: 2922 49 95 90
- Applications: analytical chemistry, for pharmaceutical use, in biochemistry.

 assay (titration with HClO<sub>4</sub>) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 specific rotation ([α]<sub>D</sub><sup>20</sup>/D, c = 5,  
 HCl 1 mol/l) . . . . . + 22 - + 23 °  
 other ninhydrin positive substances  
 (as glycine) . . . . . max. 0,1 %  
 other aminoacids . . . . . max. 0,3 %  
 ammonium (NH<sub>4</sub><sup>+</sup>) . . . . . max. 0,01 %  
 heavy metals (as Pb) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
OR00550025	25 g	0

## OXALIC ACID DIHYDRATE



- Synonyms: Ethanedioic acid
- $H_2C_2O_4 \cdot 2H_2O$
- $M = 126,07$  g/mol
- CAS [6153-56-6]
- EINECS-No.: 205-634-3
- Solub. in water: (20 °C): 102 g/l
- Melting point: 101 °C
- LD 50 (oral, rat): 7500 mg/kg (anhydrous substance)

- EC-Index-No.: 607-006-00-8
- GHS-signal word: Danger
- GHS-H sentences: H302 - H312 - H318
- GHS-P sentences: P280 - P305 + P351 + P338 - P310 - P322 - P301 + P312 - P501a
- Tariff number: 2917 11 00 99
- Applications: analytical chemistry, laboratory reagent, solvents, catalyst.

### AC1721 Oxalic acid dihydrate, EssentQ®



assay (permanganometric) . . . . . min. 99,0 %  
identity (IR-spectrum) . . . . . passes test  
nitrogen compounds (as N) . . . . . max. 0,005 %  
chlorides (Cl) . . . . . max. 0,002 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,02 %

heavy metals . . . . . max. 0,002 %  
iron (Fe) . . . . . max. 0,001 %  
residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AC17210500	500 g	Ⓟ
AC17211000	1 kg	Ⓟ
AC1721005P	5 kg	Ⓟ

### AC1720 Oxalic acid dihydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



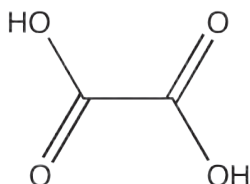
assay (permanganometric) . . . . . 99,5 - 102,5 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,005 %  
chlorides (Cl) . . . . . max. 5 ppm  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
nitrogen compounds (as N) . . . . . max. 0,001 %

calcium (Ca) . . . . . max. 0,001 %  
heavy metals . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 2 ppm  
substances darkened by hot H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AC17200250	250 g	Ⓟ
AC17200500	500 g	Ⓟ
AC17201000	1 kg	Ⓟ

## OXALIC ACID, VOLUMETRIC SOLUTIONS

### AC1723 Oxalic acid, solution 0,05 mol/l (0,1 N)

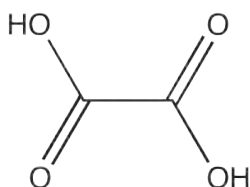


- $H_2C_2O_4$
- $M = 90,04$  g/mol
- CAS [144-62-7]
- EINECS-No.: 205-634-3
- Density: 0,99 g/cm<sup>3</sup>
- LD 50 (oral, rat): 7500 mg/kg (pure substance)
- EC-Index-No.: 607-006-00-8
- Tariff number: 2917 11 00 99
- Applications: analytical chemistry, laboratory reagent.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,004502 g  $C_2H_2O_4$   
This volumetric solution was checked by means of potentiometric methods using a potassium permanganate standard solution, that was also checked against Scharlau's oxalic acid volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC17231000	1 l	Ⓟ

### AC1725 Oxalic acid, solution 0,005 mol/l (0,01 N)



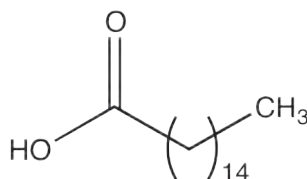
- $H_2C_2O_4$
- $M = 90,04$  g/mol
- CAS [144-62-7]
- EINECS-No.: 205-634-3
- Density: 0,99 g/cm<sup>3</sup>
- LD 50 (oral, rat): 7500 mg/kg (pure substance)
- EC-Index-No.: 607-006-00-8
- Tariff number: 2917 11 00 99
- Applications: analytical chemistry, laboratory reagent.

factor . . . . . 0,997 - 1,003  
1 ml = 0,0004502 g  $C_2H_2O_4$   
This volumetric solution was checked by means of potentiometric methods using a potassium permanganate standard solution, that was also checked against Scharlau's oxalic acid volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC17251000	1 l	Ⓟ

## PALMITIC ACID

AC1730 Palmitic acid, EssentQ®



- Synonyms: Hexadecanoic acid
- $C_{16}H_{32}O_2$
- $M = 256,43$  g/mol
- CAS [57-10-3]
- EINECS-No.: 200-312-9
- Solub. in water: (20 °C): insoluble
- Melting point: 61 - 63 °C
- Boiling point: (133 hPa) 271,5 °C
- LD 50 (oral, rat): > 10000 mg/kg
- Tariff number: 2915 70 40 00
- Applications: synthesis of organic products, in food industry, perfumery, cosmetics, emulsifier.

assay (G.C.) .....min. 98 %  
identity (IR-spectrum) .....passes test

ART. NO.	VOLUME	CONTAINER
AC17301000	1 kg	
AC1730005P	5 kg	
AC1730025P	25 l	

## PALLADIUM(II) CHLORIDE


PA0025 Palladium(II) chloride, approx. 59% Pd



- Synonyms: Palladium dichloride
- $PdCl_2$
- $M = 177,31$  g/mol
- CAS [7647-10-1]
- EINECS-No.: 231-596-2
- Density: 4,0 g/cm<sup>3</sup>
- Melting point: 678 °C
- ADR: 8 C2 III UN 3260
- IMDG: 8 III UN 3260
- IATA/ICAO: 8 III UN 3260

- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2843 90 90 00
- Applications: catalyst, synthesis of organic products, photography, painting.

palladium (Pd) ..... 59,5 %

ART. NO.	VOLUME	CONTAINER
PA00250001	1 g	
PA00250005	5 g	

## PAPANICOLAOU'S SOLUTION, EA-50

SO1050 Papanicolaou's solution, EA-50



- Density: 0,83 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 17 °C
- LD 50 (oral, rat): 5628 mg/kg (methanol)
- ADR: 3 FT1 II UN 1992
- IMDG: 3 II UN 1992
- IATA/ICAO: 3 II UN 1992
- GHS-signal word: Danger
- GHS-H sentences: H225 - H331 - H370
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a

- Tariff number: 3204 19 00 90
- Applications: for cytology, vaginal smears staining for detection of vaginal, uterine or cervical cancer.
- Appearance: Clear, green with red shades liquid

eosin Y ..... 0,23 %  
Bismarck brown ..... 0,05 %  
fast green FCF ..... 0,08 %  
phosphotungstic acid ..... 0,2 %  
in denaturated alcohol

ART. NO.	VOLUME	CONTAINER
SO10500500	500 ml	
SO10501000	1 l	
SO10502500	2,5 l	

## PAPANICOLAOU'S SOLUTION, OG-6


SO1051 Papanicolaou's solution, OG-6



- Density: 0,83 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 14 °C
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225

- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 3204 12 00 00
- Applications: for cytology, vaginal smears staining for detection of vaginal, uterine or cervical cancer.
- Appearance: Clear, orange liquid

orange G ..... 0,3 %  
phosphotungstic acid ..... 0,015 %  
in denaturated alcohol

ART. NO.	VOLUME	CONTAINER
SO10510500	500 ml	
SO10511000	1 l	
SO10512500	2,5 l	

## PARAFFIN

PA0112 Paraffin, pellets, melting point 56 - 60 °C

- CAS [8002-74-2]
- EINECS-No.: 232-315-6
- Solub. in water: (20 °C): insoluble
- Melting point: 56 - 58 °C
- Boiling point: > 350 °C
- Flash pt. 220 °C
- Ignition temp.: > 300 °C
- LD 50 (oral, rat): > 5000 mg/kg
- Tariff number: 2712 20 90 00

- Applications: plasticizer, in the textile industry, in food industry, in explosive compositions, in the pharmaceuticals industry.

melting range . . . . . 56 - 60 °C  
acidly or alkalinely reacting impurities . . . . . passes test  
polycyclic aromatic hydrocarbons . . . . . passes test  
reaction to H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on ignition . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
PA01121000	1 kg	Ⓟ
PA01122500	2,5 kg	Ⓟ
PA0112005P	5 kg	Ⓟ

## PARAFFIN PLASTICIZED, M.P. 52 - 54 °C

PA0114 Paraffin plasticized, pellets, melting point 52 - 54 °C

- CAS [8002-74-2]
- EINECS-No.: 232-315-6
- Solub. in water: (20 °C): insoluble
- Melting point: 52 - 54 °C
- Boiling point: > 350 °C
- Flash pt. 220 °C
- Ignition temp.: > 300 °C
- LD 50 (oral, rat): > 5000 mg/kg

- Tariff number: 2712 20 90 00
- Applications: analytical chemistry, laboratory reagent, for histology, in food industry, in the pharmaceuticals industry.

melting range . . . . . 52 - 54 °C  
acidly or alkalinely reacting impurities . . . . . passes test  
insoluble in C<sub>8</sub>H<sub>10</sub> . . . . . passes test

ART. NO.	VOLUME	CONTAINER
PA01141000	1 kg	Ⓟ
PA0114005P	5 kg	Ⓟ

## PARAFFIN PLASTICIZED, M.P. 56 - 58 °C

PA0113 Paraffin plasticized, pellets, melting point 56 - 58 °C

- CAS [8002-74-2]
- EINECS-No.: 232-315-6
- Solub. in water: (20 °C): insoluble
- Melting point: 56 - 58 °C
- Boiling point: > 350 °C
- Flash pt. 220 °C
- Ignition temp.: > 300 °C
- LD 50 (oral, rat): > 5000 mg/kg

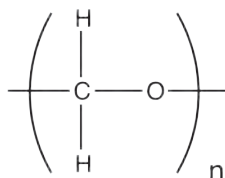
- Tariff number: 2712 20 90 00
- Applications: analytical chemistry, laboratory reagent, for histology.

melting range . . . . . 56 - 58 °C  
acidly or alkalinely reacting impurities . . . . . passes test  
insoluble in C<sub>8</sub>H<sub>10</sub> . . . . . passes test

ART. NO.	VOLUME	CONTAINER
PA01131000	1 kg	Ⓟ
PA0113005P	5 kg	Ⓟ

## PARAFORMALDEHYDE

PA0095 Paraformaldehyde, EssentQ®



- Synonyms: Polyoxymethylene, Paraform
- (CH<sub>2</sub>O)<sub>n</sub>
- CAS [30525-89-4]
- EINECS-No.: 200-001-8
- Solub. in water: (20 °C): slightly soluble
- Melting point: 120 - 170 °C
- Flash pt. 70 °C
- Ignition temp.: 370 °C
- Vapour pressure: (20 °C) 1,5 - 2 hPa
- LD 50 (oral, rat): 592 mg/kg
- ADR: 4.1 F1 III UN 2213
- IMDG: 4.1 III UN 2213
- IATA/ICAO: 4.1 III UN 2213
- GHS-signal word: Warning
- GHS-H sentences: H228 - H351 - H302 - H332 - H315 - H319 - H317 - H335
- GHS-P sentences: P210 - P241 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2912 60 00 00
- Applications: synthesis of organic products, disinfectant, cosmetics, fumigant, manufacturing of synthetic resins.
- Appearance: White powder

assay (acidimetric, after oxidation) . . . . . 95 - 100,5 %  
identity (IR-spectrum) . . . . . passes test  
appearance of solution . . . . . passes test  
acidity or alkalinity . . . . . passes test  
insoluble in water . . . . . max. 0,1 %  
heavy metals (as Pb) . . . . . max. 0,001 %  
residue on ignition . . . . . max. 0,05 %

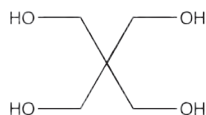
ART. NO.	VOLUME	CONTAINER
PA00950500	500 g	Ⓟ
PA00951000	1 kg	Ⓟ
PA0095025P	25 kg	Ⓟ

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z



## PENTAERYTHRITOL

PE0070 Pentaerythritol, EssentQ®

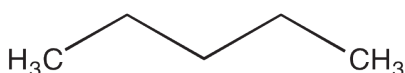


- Synonyms: 2,2-Bis(hydroxymethyl)-1,3-propanediol
- $C_5H_{12}O_4$
- $M = 136,15 \text{ g/mol}$
- CAS [115-77-5]
- EINECS-No.: 204-104-9
- Solub. in water: (20 °C): 70 g/l
- Melting point: 256 - 258 °C
- Boiling point: (40 hPa) 276 °C
- Flash pt. > 150 °C
- Ignition temp.: 490 °C
- LD 50 (oral, rat): 19500 mg/kg
- Tariff number: 2905 42 00 00
- Applications: synthesis of organic products, manufacturing of synthetic resins, painting.

assay (DSC) .....min. 98 %  
identity (IR-spectrum) .....passes test

ART. NO.	VOLUME	CONTAINER
PE00701000	1 kg	Ⓜ

## n-PENTANE



- Synonyms: 1,3-Dimethylpropane, Diethyl methane
- $C_5H_{12}$
- $M = 72,15 \text{ g/mol}$
- CAS [109-66-0]
- EINECS-No.: 203-692-4
- Density: 0,63 g/cm<sup>3</sup>
- Solub. in water: (25 °C): 0,04 g/l
- Melting point: -129,7 °C
- Boiling point: 36,1 °C
- Flash pt. -48 °C
- Ignition temp.: 285 °C
- Vapour pressure: (20 °C) 573 hPa
- Dielectric const.: (20 °C) 1,8

- EC-Index-No.: 601-006-00-1 [1]
- ADR: 3 F1 II UN 1265
- IMDG: 3 II UN 1265
- IATA/ICAO: 3 II UN 1265
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H336 - H411 - EUH066
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2901 10 00 00
- Applications: synthesis of organic products, analytical chemistry, reference material, chromatography.

PE0092 n-Pentane, 95%, EssentQ®



assay (G.C.) .....min. 95 %  
density (20°/4°) ..... 0,625 - 0,628  
residue on evaporation .....max. 0,003 %  
water (K.F.) .....max. 0,02 %

ART. NO.	VOLUME	CONTAINER
PE00921000	1 l	Ⓜ
PE00922500	2,5 l	Ⓜ

ART. NO.	VOLUME	CONTAINER
PE0092005L	5 l	Ⓜ
PE0092025L	25 l	Ⓜ

PE0095 n-Pentane, 99%, EssentQ®



assay (G.C.) .....min. 99 %  
identity (IR-spectrum) .....passes test  
density (20°/4°) ..... 0,625 - 0,627  
acidity .....max. 0,001 meq/g  
copper (Cu) .....max. 0,2 ppm  
iron (Fe) .....max. 0,6 ppm  
lead (Pb) .....max. 0,2 ppm

nickel (Ni) .....max. 0,2 ppm  
isopentane (G.C.) .....max. 1 %  
sulfur compounds (as S) .....max. 0,005 %  
substances darkened by  $H_2SO_4$  .....passes test  
residue on evaporation .....max. 0,001 %  
water (K.F.) .....max. 0,01 %

ART. NO.	VOLUME	CONTAINER
PE00951000	1 l	Ⓜ
PE00952500	2,5 l	Ⓜ
PE0095005L	5 l	Ⓜ
PE0095025A	25 l	Ⓜ

PE0096 n-Pentane, 99%, ExpertQ®, for analysis



assay (G.C.) .....min. 99 %  
identity (IR-spectrum) .....passes test  
density (20°/4°) ..... 0,625 - 0,627  
colour (Hazen) .....max. 10  
acidity .....max. 0,0002 meq/g  
aluminium (Al) .....max. 0,5 ppm  
barium (Ba) .....max. 0,1 ppm  
boron (B) .....max. 0,02 ppm  
cadmium (Cd) .....max. 0,05 ppm  
calcium (Ca) .....max. 0,5 ppm  
chromium (Cr) .....max. 0,02 ppm  
cobalt (Co) .....max. 0,02 ppm

copper (Cu) .....max. 0,02 ppm  
iron (Fe) .....max. 0,1 ppm  
lead (Pb) .....max. 0,1 ppm  
magnesium (Mg) .....max. 0,1 ppm  
manganese (Mn) .....max. 0,02 ppm  
nickel (Ni) .....max. 0,02 ppm  
tin (Sn) .....max. 0,1 ppm  
zinc (Zn) .....max. 0,1 ppm  
sulfur compounds (as S) .....max. 0,005 %  
substances darkened by  $H_2SO_4$  .....passes test  
residue on evaporation .....max. 0,001 %  
water (K.F.) .....max. 0,01 %

ART. NO.	VOLUME	CONTAINER
PE00961000	1 l	Ⓜ
PE00962500	2,5 l	Ⓜ

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

PE0097 n-Pentane, 99%, HPLC grade



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,625 - 0,627  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
residue on evaporation . . . . . max. 0,0002 %  
water (K.F.) . . . . . max. 0,01 %

min. transmission/max. absorbance in a 1,0 cm cell at wavelength T(%) A (AU)  
210 nm . . . . . 50 % 0,301 AU  
230 nm . . . . . 90 % 0,046 AU  
240 nm . . . . . 98 % 0,010 AU  
Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
PE00971000	1 l	0
PE00972500	2,5 l	0

PE0099 n-Pentane, 99%, for GC residue analysis



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,625 - 0,627  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,01 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
PE00991000	1 l	0
PE00992500	2,5 l	0

PE0100 n-Pentane, 99%, GC ultra-trace analysis grade



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,625 - 0,627  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,01 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 2 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl. Suitable for highly volatile halogenated hydrocarbons trace analysis. ECD, from dichloromethane to 1,2,4-trichlorobenzene, no peaks are obtained greater than 1 ng/ml as tetrachloromethane. Suitable for pesticide and polycyclic aromatic hydrocarbons residue analysis. FID, from 1-octanol to 1-tetradecanol, no peaks are obtained greater than 2 ng/ml as 1-tetradecanol. No peaks are obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
PE01001000	1 l	0
PE01002500	2,5 l	0

PE0102 Pentane, standard substance for GC

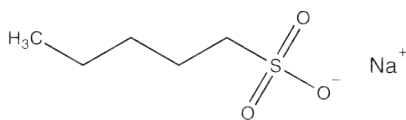


assay . . . . . 99,7 %  
over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200°C  
identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
PE01020005	5ml	0

## 1-PENTANE SULFONIC ACID, SODIUM SALT

AC1741 1-Pentane sulfonic acid, sodium salt, HPLC grade



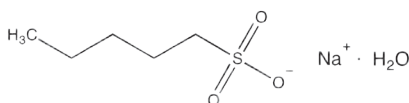
- Synonyms: Sodium 1-pentylsulfonate
- C<sub>5</sub>H<sub>11</sub>NaO<sub>3</sub>S
- M = 174,20 g/mol
- CAS [22767-49-3]
- EINECS-No.: 245-208-4
- Solub. in water: (20 °C): freely soluble
- Tariff number: 2904 10 00 90
- Applications: analytical chemistry, chromatography.

assay (acidimetric) . . . . . min. 99 %  
pH (10 %, H<sub>2</sub>O) . . . . . 5,5 - 7,5  
loss on drying . . . . . max. 1 %  
absorbance of an aqueous solution 0,1M in a 1cm cell at 254nm . . . . . max. 0,045 AU  
absorbance of an aqueous solution 0,005M in a 1cm cell at 200 nm . . . . . max. 0,15 %  
220 nm . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AC17410025	25 g	0
AC17410100	100 g	0

## 1-PENTANE SULFONIC ACID, SODIUM SALT MONOHYDRATE

AC1745 1-Pentane sulfonic acid, sodium salt monohydrate, HPLC grade



- Synonyms: Sodium 1-pentylsulfonate monohydrate
- $C_5H_{11}NaO_3S \cdot H_2O$
- $M = 192,21 \text{ g/mol}$
- CAS [207605-40-1]
- EINECS-No.: 245-208-4
- Solub. in water: (20 °C): freely soluble
- Tariff number: 2904 10 00 90
- Applications: analytical chemistry, chromatography.

assay (acidimetric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble matter . . . . . passes test  
 max. absorbance of an aqueous sol. 10 % in a 1,0 cm  
 cell at wavelength . . . . . absorbance  
 210 nm . . . . . 0,1 AU  
 220 nm . . . . . 0,06 AU  
 230 nm . . . . . 0,04 AU  
 260 nm . . . . . 0,02 AU

ART. NO.	VOLUME	CONTAINER
AC17450025	25 g	0
AC17450100	100 g	0

## PEPSIN 1:3000

PE0120 Pepsin 1:3000, Pharmpur®, NF



- Synonyms: Puerzym
- CAS [9001-75-6]
- EINECS-No.: 232-629-3
- Solub. in water: (20 °C): soluble
- EC-Index-No.: 647-008-00-6
- GHS-signal word: Danger
- GHS-H sentences: H334 - H335 - H315 - H319
- GHS-P sentences: P285 - P261 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 3507 90 90 90
- Applications: analytical chemistry, laboratory reagent, in the pharmaceuticals industry, in food industry, in biochemistry (enzyme).

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013

pH (5 %,  $H_2O$ ) . . . . . approx. 3,7  
 activity . . . . . 1:3000 NF  
 enzymatic activity . . . . . 0,5 U/mg  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PE01200100	100 g	0

## PEPSIN 1:10000

PE0125 Pepsin 1:10000, Pharmpur®, NF



- Synonyms: Puerzym
- CAS [9001-75-6]
- EINECS-No.: 232-629-3
- Solub. in water: (20 °C): soluble
- EC-Index-No.: 647-008-00-6
- GHS-signal word: Danger
- GHS-H sentences: H334 - H335 - H315 - H319
- GHS-P sentences: P285 - P261 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3507 90 90 90

- Applications: analytical chemistry, laboratory reagent, in the pharmaceuticals industry, in food industry, in biochemistry (enzyme).

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013

pH (5 %,  $H_2O$ ) . . . . . 3,5 - 4,5  
 activity . . . . . 1:10000 NF  
 enzymatic activity . . . . . 2 U/mg  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PE01250100	100 g	0
PE01251000	1 kg	0

## PERCHLORIC ACID, 70%

- $HClO_4$
- $M = 100,46 \text{ g/mol}$
- CAS [7601-90-3]
- EINECS-No.: 231-512-4
- Density: 1,68 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -18 °C

- Boiling point: 198,7 °C
- LD 50 (oral, rat): 1100 mg/kg (anhydrous substance)
- EC-Index-No.: 017-006-00-4
- ADR: 5.1 OC1 | UN 1873
- IMDG: 5.1 | UN 1873
- IATA/ICAO: 5.1 | UN 1873
- GHS-signal word: Danger

- GHS-H sentences: H271 - H314 - H302
- GHS-P sentences: P221 - P283 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2811 19 80 90
- Applications: analytical chemistry, laboratory reagent, oxidizing agent, in explosive compositions.

AC1760 Perchloric acid, 70%, ExpertQ®, for analysis, ACS, ISO



assay (acidimetric) . . . . . 69 - 72 %  
 identity . . . . . passes test  
 colour (Hazen) . . . . . max. 10  
 insoluble in C<sub>2</sub>H<sub>5</sub>OH . . . . . max. 0,001 %  
 free chlorine (as Cl) . . . . . max. 0,00005 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 chlorates (ClO<sub>3</sub>) . . . . . max. 0,0003 %  
 chlorides (Cl) . . . . . max. 0,0003 %  
 phosphates and silicates (as SiO<sub>2</sub>) . . . . . max. 0,0005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 arsenic (As) . . . . . max. 0,05 ppm  
 barium (Ba) . . . . . max. 0,02 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 cobalt (Co) . . . . . max. 0,05 ppm  
 copper (Cu) . . . . . max. 0,1 ppm

germanium (Ge) . . . . . max. 0,05 ppm  
 heavy metals (as Pb) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 1 ppm  
 lead (Pb) . . . . . max. 0,05 ppm  
 lithium (Li) . . . . . max. 0,02 ppm  
 magnesium (Mg) . . . . . max. 0,5 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 molybdenum (Mo) . . . . . max. 0,05 ppm  
 nickel (Ni) . . . . . max. 0,1 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,1 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,1 ppm  
 vanadium (V) . . . . . max. 0,05 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 zirconium (Zr) . . . . . max. 0,1 ppm  
 residue on ignition (as SO<sub>2</sub>) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
AC17601000	1 l	0
AC17601001	1 l	0
AC17602500	2,5 l	0

AC1761 Perchloric acid, 70%, Ultratrace®, ppb-trace analysis grade



assay (acidimetric) . . . . . 65 - 71 %  
 colour (Hazen) . . . . . max. 10  
 aluminium (Al) . . . . . max. 1 ppb  
 antimony (Sb) . . . . . max. 0,5 ppb  
 arsenic (As) . . . . . max. 0,5 ppb  
 barium (Ba) . . . . . max. 1 ppb  
 beryllium (Be) . . . . . max. 0,5 ppb  
 bismuth (Bi) . . . . . max. 0,5 ppb  
 cadmium (Cd) . . . . . max. 1 ppb  
 calcium (Ca) . . . . . max. 1 ppb  
 cerium (Ce) . . . . . max. 0,5 ppb  
 cesium (Cs) . . . . . max. 0,5 ppb  
 cobalt (Co) . . . . . max. 0,5 ppb  
 copper (Cu) . . . . . max. 0,5 ppb  
 dysprosium (Dy) . . . . . max. 0,5 ppb  
 erbium (Er) . . . . . max. 0,5 ppb  
 europium (Eu) . . . . . max. 0,5 ppb  
 gadolinium (Gd) . . . . . max. 0,5 ppb  
 gallium (Ga) . . . . . max. 0,5 ppb  
 gold (Au) . . . . . max. 0,5 ppb  
 holmium (Ho) . . . . . max. 0,5 ppb  
 indium (In) . . . . . max. 0,5 ppb  
 iron (Fe) . . . . . max. 1 ppb  
 lanthanum (La) . . . . . max. 0,5 ppb  
 lead (Pb) . . . . . max. 1 ppb  
 lithium (Li) . . . . . max. 0,5 ppb  
 lutetium (Lu) . . . . . max. 0,5 ppb  
 magnesium (Mg) . . . . . max. 1 ppb

manganese (Mn) . . . . . max. 1 ppb  
 molybdenum (Mo) . . . . . max. 0,5 ppb  
 neodymium (Nd) . . . . . max. 0,5 ppb  
 nickel (Ni) . . . . . max. 1 ppb  
 palladium (Pd) . . . . . max. 0,5 ppb  
 platinum (Pt) . . . . . max. 0,5 ppb  
 potassium (K) . . . . . max. 1 ppb  
 praseodymium (Pr) . . . . . max. 0,5 ppb  
 rhodium (Rh) . . . . . max. 0,5 ppb  
 rubidium (Rb) . . . . . max. 0,5 ppb  
 samarium (Sm) . . . . . max. 0,5 ppb  
 scandium (Sc) . . . . . max. 0,5 ppb  
 silver (Ag) . . . . . max. 1 ppb  
 sodium (Na) . . . . . max. 1 ppb  
 strontium (Sr) . . . . . max. 0,5 ppb  
 tellurium (Te) . . . . . max. 0,5 ppb  
 terbium (Tb) . . . . . max. 0,5 ppb  
 thallium (Tl) . . . . . max. 0,5 ppb  
 thorium (Th) . . . . . max. 1 ppb  
 thulium (Tm) . . . . . max. 0,5 ppb  
 tin (Sn) . . . . . max. 1 ppb  
 titanium (Ti) . . . . . max. 1 ppb  
 uranium (U) . . . . . max. 0,5 ppb  
 vanadium (V) . . . . . max. 0,5 ppb  
 ytterbium (Yb) . . . . . max. 0,5 ppb  
 yttrium (Y) . . . . . max. 0,5 ppb  
 zinc (Zn) . . . . . max. 1 ppb  
 zirconium (Zr) . . . . . max. 0,5 ppb

ART. NO.	VOLUME	CONTAINER
AC17610500	500 ml	0

**PERCHLORIC ACID, 60%**

AC1755 Perchloric acid, solution 60% w/w, ExpertQ®, for analysis, ACS, ISO



- HClO<sub>4</sub>
- M = 100,46 g/mol
- CAS [7601-90-3]
- EINECS-No.: 231-512-4
- Density: 1,53 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Boiling point: ~ 160 °C
- LD 50 (oral, rat): 1100 mg/kg (anhydrous substance)
- EC-Index-No.: 017-006-00-4
- ADR: 5.1 OC1 I UN 1873
- IMDG: 5.1 I UN 1873
- IATA/ICAO: 5.1 I UN 1873
- GHS-signal word: Danger
- GHS-H sentences: H271 - H314 - H302
- GHS-P sentences: P221 - P283 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2811 19 80 90
- Applications: analytical chemistry, laboratory reagent, oxidizing agent, in explosive compositions.

assay (acidimetric) . . . . . 60 - 62 %  
 colour (Hazen) . . . . . max. 10  
 insoluble in C<sub>2</sub>H<sub>5</sub>OH . . . . . max. 0,001 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 chlorides (Cl) . . . . . max. 0,0003 %  
 chlorates (ClO<sub>3</sub>) . . . . . max. 0,001 %  
 phosphates and silicates (as SiO<sub>2</sub>) . . . . . max. 0,0005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
 free chlorine (as Cl) . . . . . max. 0,00005 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 arsenic (As) . . . . . max. 0,05 ppm  
 barium (Ba) . . . . . max. 0,02 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 cobalt (Co) . . . . . max. 0,05 ppm  
 copper (Cu) . . . . . max. 0,1 ppm  
 germanium (Ge) . . . . . max. 0,05 ppm  
 heavy metals (as Pb) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 1 ppm  
 lead (Pb) . . . . . max. 0,05 ppm  
 lithium (Li) . . . . . max. 0,02 ppm

magnesium (Mg) . . . . . max. 0,5 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 molybdenum (Mo) . . . . . max. 0,05 ppm  
 nickel (Ni) . . . . . max. 0,1 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,1 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,1 ppm  
 vanadium (V) . . . . . max. 0,05 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 zirconium (Zr) . . . . . max. 0,1 ppm  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 residue on ignition (as SO<sub>2</sub>) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
AC17551000	1 l	0
AC17551001	1 l	0
AC17552500	2,5 l	0
AC17552501	2,5 l	0

## PERCHLORIC ACID, 20%

- HClO<sub>4</sub>
- M = 100,46 g/mol
- CAS [7601-90-3]
- EINECS-No.: 231-512-4
- Density: 1,12 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Refraction index: (n 20 °C/D) 1,347
- LD 50 (oral, rat): 1100 mg/kg (anhydrous substance)
- EC-Index-No.: 017-006-00-4
- ADR: 8 CO1 II UN 1802
- IMDG: 8 II UN 1802
- IATA/ICAO: 8 II UN 1802
- GHS-signal word: Danger
- GHS-H sentences: H272 - H314
- GHS-P sentences: P221 - P210 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2811 19 80 90
- Applications: analytical chemistry, laboratory reagent, oxidizing agent, in explosive compositions.

### AC1752 Perchloric acid, solution 20% w/w, EssentQ®



assay (acidimetric) . . . . .	approx. 20 %	nitrogen compounds (as N) . . . . .	max. 0,005 %
chlorine (Cl) . . . . .	max. 0,0005 %	arsenic (As) . . . . .	max. 1 ppm
chlorates (ClO <sub>3</sub> ) . . . . .	max. 0,005 %	iron (Fe) . . . . .	max. 5 ppm
chlorides (Cl) . . . . .	max. 0,001 %	lead (Pb) . . . . .	max. 5 ppm
phosphates and silicates (as SiO <sub>2</sub> ) . . . . .	max. 0,002 %	nickel (Ni) . . . . .	max. 5 ppm
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,003 %	residue on ignition (as SO <sub>2</sub> ) . . . . .	max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AC17521000	1 l	0

### AC1753 Perchloric acid, solution 20% w/w, ExpertQ®, for analysis



assay (acidimetric) . . . . .	approx. 20 %	germanium (Ge) . . . . .	max. 0,05 ppm
identity . . . . .	passes test	heavy metals (as Pb) . . . . .	max. 1 ppm
colour (Hazen) . . . . .	max. 10	iron (Fe) . . . . .	max. 1 ppm
insoluble in C <sub>2</sub> H <sub>5</sub> OH . . . . .	max. 0,001 %	lead (Pb) . . . . .	max. 0,05 ppm
free chlorine (as Cl) . . . . .	max. 0,00005 %	lithium (Li) . . . . .	max. 0,02 ppm
total nitrogen (as N) . . . . .	max. 0,001 %	magnesium (Mg) . . . . .	max. 0,5 ppm
chlorates (ClO <sub>3</sub> ) . . . . .	max. 0,001 %	manganese (Mn) . . . . .	max. 0,02 ppm
chlorides (Cl) . . . . .	max. 0,0003 %	molybdenum (Mo) . . . . .	max. 0,05 ppm
phosphates and silicates (as SiO <sub>2</sub> ) . . . . .	max. 0,0005 %	nickel (Ni) . . . . .	max. 0,1 ppm
sulfates (SO <sub>4</sub> ) . . . . .	max. 0,001 %	potassium (K) . . . . .	max. 0,1 ppm
aluminium (Al) . . . . .	max. 0,05 ppm	silver (Ag) . . . . .	max. 0,1 ppm
arsenic (As) . . . . .	max. 0,05 ppm	sodium (Na) . . . . .	max. 0,5 ppm
barium (Ba) . . . . .	max. 0,02 ppm	strontium (Sr) . . . . .	max. 0,02 ppm
beryllium (Be) . . . . .	max. 0,02 ppm	thallium (Tl) . . . . .	max. 0,05 ppm
bismuth (Bi) . . . . .	max. 0,1 ppm	titanium (Ti) . . . . .	max. 0,1 ppm
cadmium (Cd) . . . . .	max. 0,05 ppm	vanadium (V) . . . . .	max. 0,05 ppm
calcium (Ca) . . . . .	max. 0,5 ppm	zinc (Zn) . . . . .	max. 0,1 ppm
cobalt (Co) . . . . .	max. 0,05 ppm	zirconium (Zr) . . . . .	max. 0,1 ppm
copper (Cu) . . . . .	max. 0,1 ppm	residue on ignition (as SO <sub>2</sub> ) . . . . .	max. 0,003 %

ART. NO.	VOLUME	CONTAINER
AC17531000	1 l	0
AC17532500	2,5 l	0

## PERCHLORIC ACID, VOLUMETRIC SOLUTIONS

### AC1765 Perchloric acid, solution in acetic acid 0,1 mol/l (0,1 N)



- HClO<sub>4</sub>
  - M = 100,46 g/mol
  - CAS [7601-90-3]
  - EINECS-No.: 231-512-4
  - Density: 1,06 g/cm<sup>3</sup>
  - Flash pt. 40 °C
  - Ignition temp.: ~ 485 °C
  - LD 50 (oral, rat): 3310 mg/kg (solvent)
  - ADR: 8 CF1 II UN 2789
  - IMDG: 8 II UN 2789
  - IATA/ICAO: 8 II UN 2789
  - GHS-signal word: Danger
  - GHS-H sentences: H314 - H226 - H312
  - GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
  - Tariff number: 2811 19 80 90
  - Applications: laboratory reagent, analytical chemistry, titrant in volumetric analysis.
  - factor . . . . . 0,995 - 1,005
  - uncertainty ± 0,001
  - 1 ml = 0,01005 g HClO<sub>4</sub>
  - water (K.F.) . . . . . 0,1 - 0,2 %
- This volumetric solution was checked by means of potentiometric methods using Scharlau's tris (hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC17651000	1 l	0

**PETROLEUM ETHER, BOILING RANGE 30 - 40 °C**

ET0088 Petroleum ether, boiling range 30 - 40 °C, EssentQ®, Reag. Ph Eur



- Synonyms: Petroleum benzine, Petroleum spirit
- CAS [64742-49-0]
- EINECS-No.: 265-151-9
- Density: 0,65 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Boiling point: 30 - 40 °C
- Flash pt. -30 °C
- Ignition temp.: ~ 250 °C
- Vapour pressure: (20 °C) ~ 350 hPa
- EC-Index-No.: 649-328-00-1
- ADR: 3 F1 I UN 1268
- IMDG: 3 I UN 1268
- IATA/ICAO: 3 I UN 1268
- GHS-signal word: Danger
- GHS-H sentences: H224 - H304 - H336 - H411 - EUH066

- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2710 12 25 99
- Applications: solvents, analytical chemistry.

boiling range ..... 30 - 40 °C  
 density (20°/20°) ..... 0,620 - 0,630  
 acidity ..... max. 0,001 meq/g  
 copper (Cu) ..... max. 0,2 ppm  
 iron (Fe) ..... max. 0,5 ppm  
 lead (Pb) ..... max. 0,2 ppm  
 nickel (Ni) ..... max. 0,2 ppm  
 aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) ..... max. 0,01 %  
 sulphur compounds (as CS<sub>2</sub>) ..... max. 0,005 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> ..... passes test  
 residue on evaporation ..... max. 0,001 %  
 water (K.F.) ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ET00881000	1 l	0

**PETROLEUM ETHER, BOILING RANGE 40 - 60 °C**

ET0090 Petroleum ether, boiling range 40 - 60 °C, EssentQ®



- Synonyms: Petroleum benzine, Petroleum spirit
- CAS [64742-49-0]
- EINECS-No.: 265-151-9
- Density: (15 °C) 0,65 g/cm<sup>3</sup>
- Solub. in water: (20 °C): almost non-miscible
- Melting point: 5000 mg/kg

- EC-Index-No.: 649-328-00-1
- ADR: 3 F1 II UN 1268
- IMDG: 3 II UN 1268
- IATA/ICAO: 3 II UN 1268
- GHS-signal word: Danger
- GHS-H sentences: H224 - H304 - H412

- GHS-P sentences: P210 - P241 - P280 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2710 12 25 99
- Applications: solvents, analytical chemistry.
- Appearance: Clear liquid

boiling range ..... 40 - 60 °C  
 density (20°/4°) ..... 0,640 - 0,655  
 residue on evaporation ..... max. 0,005 %  
 water (K.F.) ..... max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ET00901000	1 l	0
ET00902500	2,5 l	0
ET0090005M	5 l	0

ART. NO.	VOLUME	CONTAINER
ET0090007E	7 l	0
ET0090025L	25 l	1

ET0092 Petroleum ether, boiling range 40 - 60 °C, ExpertQ®, for analysis, ACS, ISO



boiling range (40 - 60°C) ..... min. 90 % vol.  
 density (20°/4°) ..... 0,640 - 0,655  
 colour (Hazen) ..... max. 10  
 acidity ..... max. 0,0003 meq/g  
 iodine index ..... max. 0,3  
 aluminium (Al) ..... max. 0,5 ppm  
 barium (Ba) ..... max. 0,01 ppm  
 boron (B) ..... max. 0,02 ppm  
 cadmium (Cd) ..... max. 0,05 ppm  
 calcium (Ca) ..... max. 0,5 ppm  
 chromium (Cr) ..... max. 0,02 ppm  
 cobalt (Co) ..... max. 0,02 ppm  
 copper (Cu) ..... max. 0,02 ppm

iron (Fe) ..... max. 0,1 ppm  
 lead (Pb) ..... max. 0,1 ppm  
 magnesium (Mg) ..... max. 0,1 ppm  
 manganese (Mn) ..... max. 0,02 ppm  
 nickel (Ni) ..... max. 0,02 ppm  
 tin (Sn) ..... max. 0,1 ppm  
 zinc (Zn) ..... max. 0,1 ppm  
 aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) ..... max. 0,02 %  
 sulfur compounds (as S) ..... max. 0,005 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> ..... passes test  
 residue on evaporation ..... max. 0,0005 %  
 water (K.F.) ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ET00921000	1 l	0
ET00922500	2,5 l	0
ET00924000	4 l	0
ET0092005M	5 l	0
ET0092007E	7 l	0
ET0092025A	25 l	1
ET0092025S	25 l	1

ET0095 Petroleum ether, boiling range 40 - 60 °C, Multisolvant® HPLC grade ACS ISO UV-VIS



boiling range (40 - 60°C) ..... min. 90 % vol.  
 density (20°/4°) ..... 0,640 - 0,655  
 colour (Hazen) ..... max. 10  
 appearance ..... clear  
 acidity ..... max. 0,0003 meq/g  
 iodine index ..... max. 0,3  
 peroxide index ..... max. 0,3  
 aluminium (Al) ..... max. 0,1 ppm  
 barium (Ba) ..... max. 0,01 ppm  
 boron (B) ..... max. 0,02 ppm  
 cadmium (Cd) ..... max. 0,01 ppm  
 calcium (Ca) ..... max. 0,3 ppm  
 chromium (Cr) ..... max. 0,02 ppm  
 cobalt (Co) ..... max. 0,02 ppm  
 copper (Cu) ..... max. 0,02 ppm  
 iron (Fe) ..... max. 0,02 ppm  
 lead (Pb) ..... max. 0,1 ppm

magnesium (Mg) ..... max. 0,1 ppm  
 manganese (Mn) ..... max. 0,01 ppm  
 nickel (Ni) ..... max. 0,02 ppm  
 tin (Sn) ..... max. 0,1 ppm  
 zinc (Zn) ..... max. 0,01 ppm  
 aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) ..... max. 0,005 %  
 sulfur compounds (as S) ..... max. 0,005 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> ..... passes test  
 residue on evaporation ..... max. 0,0002 %  
 water (K.F.) ..... max. 0,01 %  
 min. transmission/max. absorbance in a 1,0 cm cell at wavelength T(%) A(AU)  
 210 nm ..... 10 % 1,000 AU  
 230 nm ..... 90 % 0,046 AU  
 250 nm ..... 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
ET00951000	1 l	0
ET00952500	2,5 l	0
ET0095007E	7 l	0



## ET0098 Petroleum ether, boiling range 40 - 60 °C, for GC residue analysis



density (20°/4°) . . . . . 0,640 - 0,655  
residue on evaporation . . . . .max. 0,0001 %  
water (K.F.) . . . . .max. 0,01 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
ET00981000	1 l	0
ET00982500	2,5 l	0

## ET0099 Petroleum ether, boiling range 40 - 60 °C, GC ultra-trace analysis grade



density (20°/4°) . . . . . 0,640 - 0,655  
residue on evaporation . . . . .max. 0,0001 %  
water (K.F.) . . . . .max. 0,01 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 2 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl. Suitable for highly volatile halogenated hydrocarbons

trace analysis. ECD, from dichloromethane to 1,2,4-trichlorobenzene, no peaks are obtained greater than 1 ng/ml as tetrachloromethane. Suitable for pesticide and polycyclic aromatic hydrocarbons residue analysis. FID, from 1-decanol to 1-tetradecanol, no peaks are obtained greater than 2 ng/ml as 1-tetradecanol. No peaks are obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
ET00991000	1 l	0
ET00992500	2,5 l	0

## PETROLEUM ETHER, BOILING RANGE 50 - 70 °C

### ET0096 Petroleum ether, boiling range 50 - 70 °C, EssentQ®, Reag. Ph Eur



- Synonyms: Petroleum benzine, Petroleum spirit
- CAS [64742-49-0]
- EINECS-No.: 265-151-9
- Density: (15 °C) 0,655 - 0,67 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: 5000 mg/kg
- EC-Index-No.: 649-328-00-1
- ADR: 3 F1 II UN 1268
- IMDG: 3 II UN 1268
- IATA/ICAO: 3 II UN 1268
- GHS-signal word: Danger
- GHS-H sentences: H224 - H304 - H361 - H373 - H315 - H336 - H411
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2710 12 25 99

- Applications: solvents, analytical chemistry.

boiling range . . . . . 50 - 70 °C  
density (20°/20°) . . . . . 0,661 - 0,664  
acidity . . . . .max. 0,0001 meq/g  
copper (Cu) . . . . .max. 0,2 ppm  
iron (Fe) . . . . .max. 0,5 ppm  
lead (Pb) . . . . .max. 0,2 ppm  
nickel (Ni) . . . . .max. 0,2 ppm  
aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) . . . . .max. 0,075 %  
sulphur compounds (as CS<sub>2</sub>) . . . . .max. 0,01 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . .passes test  
residue on evaporation . . . . .max. 0,001 %  
water (K.F.) . . . . .max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ET00961000	1 l	0

## PETROLEUM ETHER, BOILING RANGE 60 - 80 °C

- Synonyms: Petroleum benzine, Petroleum spirit
- CAS [64742-49-0]
- EINECS-No.: 265-151-9
- Density: 0,68 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Boiling point: 60 - 80 °C
- Flash pt. < -20 °C

- Ignition temp.: 260 °C
- Vapour pressure: (20 °C) ~ 200 hPa
- EC-Index-No.: 649-328-00-1
- ADR: 3 F1 II UN 1268
- IMDG: 3 II UN 1268
- IATA/ICAO: 3 II UN 1268
- GHS-signal word: Danger

- GHS-H sentences: H224 - H304 - H361 - H373 - H315 - H336 - H411
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2710 12 25 99
- Applications: analytical chemistry, solvents, chromatography.

### ET0100 Petroleum ether, boiling range 60 - 80 °C, EssentQ®



boiling range . . . . . 60 - 80 °C  
acidity . . . . .max. 0,001 meq/g  
aromatics . . . . .max. 0,1 %  
copper (Cu) . . . . .max. 0,2 ppm  
iron (Fe) . . . . .max. 0,5 ppm  
nickel (Ni) . . . . .max. 0,2 ppm  
lead (Pb) . . . . .max. 0,2 ppm

sulphur compounds (as CS<sub>2</sub>) . . . . .max. 0,005 %  
residue on evaporation . . . . .max. 0,001 %  
water (K.F.) . . . . .max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ET01001000	1 l	0
ET01002500	2,5 l	0
ET0100005L	5 l	0
ET0100025A	25 l	0

ET0101 Petroleum ether, boiling range 60 - 80 °C, ExpertQ®, for analysis



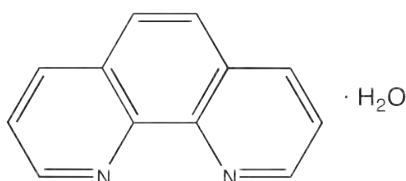
boiling range ..... 60 - 80 °C  
density (20°/4°) ..... 0,650 - 0,710  
colour (Hazen) ..... max. 10  
acidity ..... max. 0,0003 meq/g  
aluminium (Al) ..... max. 0,5 ppm  
barium (Ba) ..... max. 0,1 ppm  
boron (B) ..... max. 0,02 ppm  
cadmium (Cd) ..... max. 0,05 ppm  
calcium (Ca) ..... max. 0,5 ppm  
chromium (Cr) ..... max. 0,02 ppm  
cobalt (Co) ..... max. 0,02 ppm  
copper (Cu) ..... max. 0,02 ppm  
iron (Fe) ..... max. 0,1 ppm

lead (Pb) ..... max. 0,1 ppm  
magnesium (Mg) ..... max. 0,1 ppm  
manganese (Mn) ..... max. 0,02 ppm  
nickel (Ni) ..... max. 0,02 ppm  
tin (Sn) ..... max. 0,1 ppm  
zinc (Zn) ..... max. 0,1 ppm  
iodine number ..... max. 0,3  
aromatic hydrocarbons (as C<sub>6</sub>H<sub>6</sub>) ..... max. 0,005 %  
sulfur compounds (as S) ..... max. 0,005 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> ..... passes test  
residue on evaporation ..... max. 0,0005 %  
water (K.F.) ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ET01011000	1 l	0
ET01012500	2,5 l	0

## o-PHENANTHROLINE MONOHYDRATE

FE0100 o-Phenanthroline monohydrate, redox indicator, ExpertQ®, for analysis, ACS

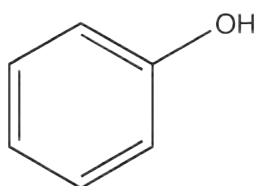


- Synonyms: 1,10-Phenanthroline monohydrate
- C<sub>12</sub>H<sub>8</sub>N<sub>2</sub>·H<sub>2</sub>O
- M = 198,24 g/mol
- CAS [5144-89-8]
- EINECS-No.: 200-629-2
- Solub. in water: (20 °C): ~ 3,3 g/l
- Melting point: 93 - 94 °C
- LD 50 (oral, rat): 132 mg/kg
- EC-Index-No.: 613-092-00-8
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H301 - H400 - H410
- GHS-P sentences: P273 - P264 - P270 - P321 - P405 - P501a
- Tariff number: 2933 99 90 90
- Applications: analytical chemistry, indicator, for determination of: iron.
- Appearance: Off-white crystals

assay (titration with HClO<sub>4</sub>, on dried sample) ..... min. 99,5 %  
identity (IR-spectrum) ..... passes test  
insoluble in C<sub>2</sub>H<sub>5</sub>OH ..... passes test  
suitability for determination of Fe ..... passes test  
suitability as redox indicator ..... passes test  
residue on ignition ..... max. 0,05 %  
water (K.F.) ..... 8,5 - 9,5 %

ART. NO.	VOLUME	CONTAINER
FE01000005	5 g	0
FE01000025	25 g	0

## PHENOL



- Synonyms: Phenic acid, Hydroxybenzene, Carbolico acid
- C<sub>6</sub>H<sub>6</sub>O
- M = 94,11 g/mol
- CAS [108-95-2]
- EINECS-No.: 203-632-7
- Solub. in water: (20 °C): 84 g/l
- Melting point: 41 °C
- Boiling point: 182 °C
- Flash pt. 81 °C
- Ignition temp.: 595 °C
- Vapour pressure: (20 °C) 0,2 hPa
- LD 50 (oral, rat): 317 mg/kg
- EC-Index-No.: 604-001-00-2

- ADR: 6.1 T1 II UN 2312
- IMDG: 6.1 II UN 2312
- IATA/ICAO: 6.1 II UN 2312
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H331 - H314 - H341 - H373 - H411
- GHS-P sentences: P201 - P260 - P273 - P301 + P310 - P303 + P361 + P353 - P304 + P340 - P305 + P331 - P361 - P405 - P501a
- Tariff number: 2907 11 00 00
- Applications: synthesis of organic products, disinfectant, for pharmaceutical use, manufacture of dyes, preservative agent, analytical chemistry, laboratory reagent.

FE0480 Phenol, crystallized, extra pure, Phampur®, Ph Eur, BP, USP



assay (bromometric, referred to dried sample) ..... 99,0 - 100,5 %  
assay (bromometric) ..... 99,0 - 100,5 %  
identification ..... passes test  
appearance of solution ..... passes test  
clarity of solution and reaction ..... passes test  
freezing point ..... min. 39,5 °C

acidity ..... passes test  
residue on evaporation ..... max. 0,05 %  
water (K.F.) ..... max. 0,5 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
FE04800500	500 g	0
FE04801000	1 kg	0
FE0480005P	5 kg	0

## FE0482 Phenol, crystallized, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (iodometric) . . . . . min. 99,0 %	water (K.F.) . . . . . max. 0,2 %
assay (bromometric) . . . . . 99,0 - 100,5 %	
identity (IR-spectrum) . . . . . passes test	
appearance of solution . . . . . passes test	
freezing point . . . . . min. 40,5 °C	
acidity . . . . . passes test	
residue on evaporation . . . . . max. 0,01 %	

ART. NO.	VOLUME	CONTAINER
FE04820250	250 g	
FE04820500	500 g	
FE04821000	1 kg	
FE0482005P	5 kg	

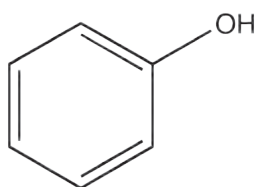
## FE0484 Phenol, molecular biology grade



assay (iodometric) . . . . . min. 99,0 %	DNases, RNases, Proteases . . . . . non detected
identity (IR-spectrum) . . . . . passes test	
appearance of solution . . . . . clear	
residue on evaporation . . . . . max. 0,5 %	

ART. NO.	VOLUME	CONTAINER
FE04840100	100 g	
FE04840500	500 g	

## PHENOL, APPROX. 90%



- Synonyms: Phenic acid, Hydroxybenzene, Carboic acid
- $C_6H_5OH$
- M = 94,11 g/mol
- CAS [108-95-2]
- EINECS-No.: 203-632-7
- Density: 1,06 g/cm<sup>3</sup>
- Boiling point: 180-182 °C
- Flash pt. 79 °C
- Ignition temp.: 605 °C
- Vapour pressure: (20 °C) 0,2 hPa
- LD 50 (oral, rat): 317 mg/kg (pure substance)
- EC-Index-No.: 604-001-00-2

- ADR: 6.1 T1 II UN 2821
- IMDG: 6.1 II UN 2821
- IATA/ICAO: 6.1 II UN 2821
- GHS-signal word: Danger
- GHS-H sentences: H311 - H331 - H314 - H341 - H373 - H302
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2907 11 00 00
- Applications: synthesis of organic products, disinfectant, for pharmaceutical use, manufacture of dyes, preservative agent, analytical chemistry, laboratory reagent.

## FE0478 Phenol, approx. 90%, aqueous solution, extra pure, Pharmpur®, USP



assay (iodometric) . . . . . min. 89,0 %	Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.
identification . . . . . passes test	Residual solvents are analysed according to guideline CPMP/ICH/283/95.
clarity of solution and reaction . . . . . passes test	
distilling range . . . . . max. 182,5 °C	
residue on evaporation . . . . . max. 0,05 %	

ART. NO.	VOLUME	CONTAINER
FE04781000	1 l	
FE0478005P	5 l	

## FE0479 Phenol, approx. 90%, aqueous solution

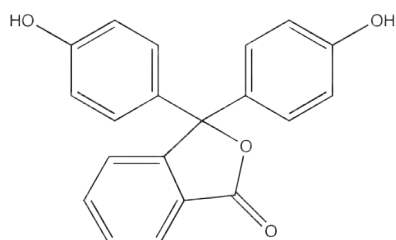


assay (G.C.) . . . . . 89 - 92 %	residue on evaporation . . . . . max. 0,02 %
chlorides (Cl) . . . . . max. 0,0005 %	water (K.F.) . . . . . 8 - 11 %
heavy metals (as Pb) . . . . . max. 3 ppm	
iron (Fe) . . . . . max. 1 ppm	

ART. NO.	VOLUME	CONTAINER
FE04791000	1 l	
FE0479005P	5 l	

## PHENOLPHTHALEIN

## FE0495 Phenolphthalein, indicator, ACS



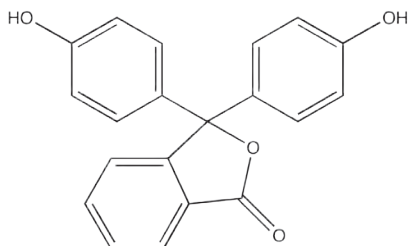
- Synonyms: 3,3-Bis(p-hydroxyphenyl)phthalide
- $C_{20}H_{14}O_4$
- M = 318,33 g/mol
- CAS [77-09-8]
- EINECS-No.: 201-004-7
- Solub. in water: (20°C): insoluble
- Melting point: 261 - 263°C
- GHS-signal word: Danger
- GHS-H sentences: H350 - H341 - H361f
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2932 20 10 00
- Applications: analytical chemistry, laboratory reagent, indicator, in the pharmaceuticals industry (laxative).

pH range (colourless to violet-red) . . . . . 8 - 10  
 Absorption maximum  $\lambda$  (pH 9,8) . . . . . 551 - 554 nm  
 Absorptivity (A1%/1 cm;  $\lambda$  max;  
 pH 9,8 on dried sample) . . . . . 500 - 600  
 clarity of alcohol solution . . . . . passes test  
 loss on drying (110 °C) . . . . . max. 1%

ART. NO.	VOLUME	CONTAINER
FE04950025	25 g	
FE04950100	100 g	
FE04950250	250 g	
FE04950500	500 g	
FE0495005P	5 kg	
FE0495025P	25 kg	

## PHENOLPHTHALEIN, ETHANOLIC SOLUTIONS

FE0496 Phenolphthalein, solution 1% in ethanol, indicator



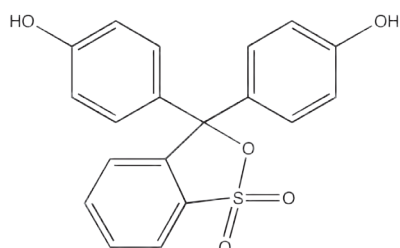
- $C_{20}H_{14}O_3$
- $M = 318,33$  g/mol
- CAS [77-09-8]
- EINECS-No.: 201-004-7
- Density: 0,81 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 23 °C
- Ignition temp.: ~ 425 °C
- LD 50 (oral, rat): 6200 mg/kg (ethanol)
- ADR: 3 F1 III UN 1993
- IMDG: 3 III UN 1993
- IATA/ICAO: 3 III UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H350 - H341 - H226
- GHS-P sentences: P210 - P241 - P280 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent, indicator.

pH range (colourless to violet-red) . . . . . 8,2 - 9,8

ART. NO.	VOLUME	CONTAINER
FE04960250	250 ml	0
FE04961000	1 l	0

## PHENOL RED

RO0130 Phenol red, indicator, ACS



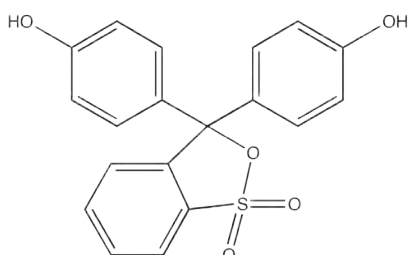
- Synonyms: Phenolsulfonphthalein, PR
- $C_{19}H_{14}O_5S$
- $M = 354,38$  g/mol
- CAS [143-74-8]
- EINECS-No.: 205-609-7
- Solub. in water: (20 °C): almost insoluble
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, indicator.

pH range (yellow-red) . . . . . 6,8 - 8,2  
 clarity of solution . . . . . passes test  
 Absorption maximum  $\lambda_1$  (pH 1,2) . . . . . 503 - 506 nm  
 Absorption maximum  $\lambda_2$  (pH 3,0) . . . . . 430 - 435 nm  
 Absorption maximum  $\lambda_3$  (pH 6,5) . . . . . 430 - 435 nm  
 Absorption maximum  $\lambda_4$  (pH 8,8) . . . . . 557 - 560 nm  
 Absorptivity (A1%/1 cm;  $\lambda_1$ , on dried sample) . . . . . 900 - 1100  
 Absorptivity (A1%/1 cm;  $\lambda_2$ , on dried sample) . . . . . 500 - 700  
 Absorptivity (A1%/1 cm;  $\lambda_3$ , on dried sample) . . . . . 500 - 700  
 Absorptivity (A1%/1 cm;  $\lambda_4$ , on dried sample) . . . . . 1000 - 1200  
 insoluble in  $C_2H_5OH$  . . . . . passes test  
 copper (Cu) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,005 %  
 nickel (Ni) . . . . . max. 0,005 %  
 loss on drying (110 °C) . . . . . max. 5 %

ART. NO.	VOLUME	CONTAINER
RO01300005	5 g	0
RO01300010	10 g	0
RO01300025	25 g	0
RO01301000	1 kg	0

## PHENOL RED, SOLUTION 0,02%

RO0131 Phenol red, solution 0,02%, indicator



- Synonyms: Phenolsulfonphthalein, PR
- $C_{19}H_{14}O_5S$
- $M = 354,38$  g/mol
- CAS [143-74-8]
- EINECS-No.: 205-609-7
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, laboratory reagent, indicator.

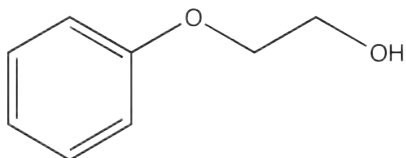
pH range (brown-orange to yellow) . . . . . 1,2 - 3,0  
 pH range (brown-yellow to red-violet) . . . . . 6,5 - 8,0

ART. NO.	VOLUME	CONTAINER
RO01310100	100 ml	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## 2-PHENOXYETHANOL

FE0525 2-Phenoxyethanol, EssentQ®



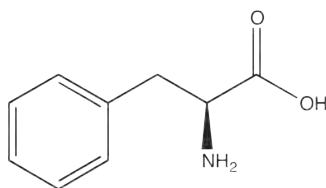
- Synonyms: Ethylene glycol monophenyl ether, Phenylcellosolve, Monophenyl glycol, Phenyl glycol
- $C_8H_{10}O_2$
- $M = 138,17 \text{ g/mol}$
- CAS [122-99-6]
- EINECS-No.: 204-589-7
- Density:  $1,11 \text{ g/cm}^3$
- Solub. in water: (20 °C): non-miscible
- Melting point:  $11 - 13 \text{ °C}$
- Boiling point:  $244 - 246 \text{ °C}$
- Flash pt.  $121 \text{ °C}$
- Ignition temp.:  $535 \text{ °C}$
- Vapour pressure: (20 °C)  $0,04 \text{ hPa}$
- Refraction index: (n 20 °C)  $1,537$
- LD 50 (oral, rat):  $> 2000 \text{ mg/kg}$
- EC-Index-No.: 603-098-00-9
- GHS-signal word: Warning
- GHS-H sentences: H302 - H319
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 2909 49 90 90
- Applications: synthesis of organic products, perfumery.

assay (G.C.) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 1,106 - 1,108  
 peroxides (as  $H_2O_2$ ) ..... max. 0,005 %

ART. NO.	VOLUME	CONTAINER
FE05251000	1 l	0
FE05252500	2,5 l	0

## L-PHENYLALANINE

FE0180 L-Phenylalanine, extra pure, Pharmpur®, Ph Eur, BP, USP



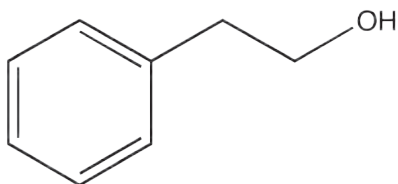
- Synonyms:  $\alpha$ -Amino- $\beta$ -phenyl propionic acid
- $C_9H_9NO_2$
- $M = 165,19 \text{ g/mol}$
- CAS [63-91-2]
- EINECS-No.: 200-568-1
- Solub. in water: (20°C):  $27 \text{ g/l}$
- Melting point:  $275 - 283 \text{ °C}$  (decomposes)
- Tariff number: 2922 49 95 90
- Applications: in biochemistry, cosmetics, for pharmaceutical use, in pharma industry.

assay (titr. with  $HClO_4$ , referred to dried sample) ..... 98,5 - 101,0 %  
 identification ..... passes test  
 appearance of solution ..... passes test  
 pH (1%,  $H_2O$ ) ..... 5,4 - 6,0  
 specific rotation ( $[\alpha]_{20}^{20}/D$ , c= 2,  $H_2O$ , referred to dried sample) .....  $-35,5^\circ - -33,0^\circ$   
 specific rotation ( $[\alpha]_{25}^{25}/D$ ; c=2,  $H_2O$ ) .....  $-34,7^\circ - -32,7^\circ$   
 chlorides (Cl) ..... max. 200 ppm  
 sulfates ( $SO_4$ ) ..... max. 300 ppm  
 ammonium ( $NH_4$ ) ..... max. 0,02 %  
 iron (Fe) ..... max. 10 ppm  
 ninhydrin-positive substances ..... passes test  
 residue on ignition ..... max. 0,1 %  
 loss on drying (105 °C) ..... max. 0,3 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
FE01800025	25 g	0
FE01800100	100 g	0

## 2-PHENYLETHANOL

AL0245 2-Phenylethanol, EssentQ®



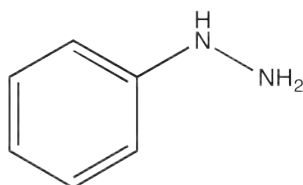
- Synonyms: Phenethyl alcohol, Benzylcarbinol
- $C_8H_{10}O$
- $M = 122,17 \text{ g/mol}$
- CAS [60-12-8]
- EINECS-No.: 200-456-2
- Density:  $1,02 \text{ g/cm}^3$
- Solub. in water: (20 °C): slightly miscible
- Melting point:  $-27 \text{ °C}$
- Boiling point:  $218 - 220 \text{ °C}$
- Flash pt.  $102 \text{ °C}$
- Ignition temp.:  $410 \text{ °C}$
- Vapour pressure: (20 °C)  $0,08 \text{ hPa}$
- Refraction index: (n 20°C/D)  $1,531$
- LD 50 (oral, rat):  $2230 \text{ mg/kg}$
- ADR: 6.1 T1 III UN 2810
- IMDG: 6.1 III UN 2810
- IATA/ICAO: 6.1 III UN 2810
- GHS-signal word: Danger
- GHS-H sentences: H311 - H302 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P361 - P322 - P405 - P501a
- Tariff number: 2906 29 00 90
- Applications: for pharmaceutical use and perfumery.

assay (G.C.) .....min. 99 %  
identity (IR-spectrum) .....passes test  
density (20°/4°)..... 1,019 - 1,020

ART. NO.	VOLUME	CONTAINER
AL02450250	250 ml	0
AL02451000	1 l	0
AL0245005P	5 l	P

## PHENYLHYDRAZINE

FE0315 Phenylhydrazine, EssentQ®



- Synonyms: Hydrazinobenzene
- $C_6H_8N_2$
- $M = 108,14 \text{ g/mol}$
- CAS [100-63-0]
- EINECS-No.: 202-873-5
- Solub. in water: (25 °C):  $145 \text{ g/l}$
- Melting point:  $19,6 \text{ °C}$
- Boiling point:  $244 \text{ °C}$
- Flash pt.  $86 \text{ °C}$
- Ignition temp.:  $195 \text{ °C}$
- Vapour pressure: (20 °C)  $0,1 \text{ hPa}$
- LD 50 (oral, rat):  $188 \text{ mg/kg}$
- EC-Index-No.: 612-023-00-9
- ADR: 6.1 T1 II UN 2572
- IMDG: 6.1 II UN 2572
- IATA/ICAO: 6.1 II UN 2572
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H331 - H350 - H372 - H341 - H400 - H315 - H319 - H317
- GHS-P sentences: P260 - P305 + P351 + P338 - P361 - P321 - P405 - P501a
- Tariff number: 2928 00 90 90
- Applications: analytical chemistry, laboratory reagent (sugars, aldehydes, ketones), manufacture of dyes, stabilizer (Explosive).
- Appearance: Reddish-brown liquid

assay (titration with  $HClO_4$ ) .....min. 95 %  
identity (IR-spectrum) .....passes test  
density (20°/4°)..... 1,096 - 1,099  
residue on ignition.....max. 0,005 %

ART. NO.	VOLUME	CONTAINER
FE03150100	100 ml	0

## ortho-PHOSPHORIC ACID, 85%

- Synonyms: Orthophosphoric acid
- $H_3PO_4$
- $M = 98,00 \text{ g/mol}$
- CAS [7664-38-2]
- EINECS-No.: 231-633-2
- Density:  $1,71 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $\sim 21 \text{ °C}$

- Boiling point:  $\sim 158 \text{ °C}$
- Vapour pressure: (25 °C)  $2,2 \text{ hPa}$
- LD 50 (oral, rat):  $1530 \text{ mg/kg}$  (anhydrous substance)
- EC-Index-No.: 015-011-00-6
- ADR: 8 C1 III UN 1805
- IMDG: 8 III UN 1805
- IATA/ICAO: 8 III UN 1805
- GHS-signal word: Danger

- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2809 20 00 00
- Applications: analytical chemistry, laboratory reagent, in fertilizer compositions, solvents (for pharmaceutical use), antioxidant (in food industry).



## AC1098 ortho-Phosphoric acid, 85%, extra pure, Pharmpur®, Ph Eur, BP, NF



assay (acidimetric) . . . . . 85,0 - 88,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 hypophosphorous acid and  
 phosphorous acid . . . . . passes test  
 alkali phosphates. . . . . passes test  
 chlorides (Cl) . . . . . max. 50 ppm  
 nitrates (NO<sub>3</sub>) . . . . . passes test

sulfates (SO<sub>4</sub>) . . . . . max. 100 ppm  
 arsenic (As) . . . . . max. 2 ppm  
 iron (Fe) . . . . . max. 50 ppm  
 substances precipitated with ammonia. . . . . passes test  
 Elemental impurities are analysed according to guideline  
 CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline  
 CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC10981000	1 l	Ⓟ
AC10982500	2,5 l	Ⓟ
AC1098025P	25 l	Ⓟ

## AC1100 ortho-Phosphoric acid, 85%, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (acidimetric) . . . . . min. 85 %  
 identity . . . . . passes test  
 appearance of solution . . . . . passes test  
 colour (Hazen) . . . . . max. 10  
 insoluble in water. . . . . max. 0,001 %  
 volatile acids (as CH<sub>3</sub>COOH) . . . . . max. 0,001 %  
 chlorides (Cl) . . . . . max. 0,0002 %  
 fluorides (F) . . . . . max. 0,0001 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,0003 %  
 phosphites,  
 hypophosphites (as H<sub>3</sub>PO<sub>3</sub>) . . . . . max. 0,002 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 antimony (Sb) . . . . . max. 5 ppm  
 arsenic (As) . . . . . max. 0,5 ppm  
 cadmium (Cd) . . . . . max. 0,5 ppm

calcium (Ca) . . . . . max. 0,002 %  
 cobalt (Co) . . . . . max. 0,5 ppm  
 copper (Cu) . . . . . max. 0,5 ppm  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,5 ppm  
 magnesium (Mg) . . . . . max. 5 ppm  
 manganese (Mn) . . . . . max. 0,5 ppm  
 nickel (Ni) . . . . . max. 1 ppm  
 potassium (K) . . . . . max. 5 ppm  
 sodium (Na) . . . . . max. 0,02 %  
 zinc (Zn) . . . . . max. 2 ppm  
 substances precipitated with ammonia. . . . . passes test  
 substances reducing KMnO<sub>4</sub> . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AC11001000	1 l	Ⓟ
AC11002500	2,5 l	Ⓟ
AC1100025P	25 l	Ⓟ

## ortho-PHOSPHORIC ACID, SOLUTION 50%

### AC1096 ortho-Phosphoric acid, solution 50%, ExpertQ®, for analysis



- Synonyms: Orthophosphoric acid
- H<sub>3</sub>PO<sub>4</sub>
- M = 98,00 g/mol
- CAS [7664-38-2]
- EINECS-No.: 231-633-2
- Density: 1,33 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 1530 mg/kg (anhydrous substance)
- EC-Index-No.: 015-011-00-6
- ADR: 8 C1 III UN 1805
- IMDG: 8 III UN 1805
- IATA/ICAO: 8 III UN 1805
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2809 20 00 00
- Applications: analytical chemistry, laboratory reagent, in fertilizer compositions, solvents (for pharmaceutical use), antioxidant (in food industry).

assay (acidimetric) . . . . . approx. 50 %  
 chlorides (Cl) . . . . . max. 0,0005 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,0005 %  
 silicates (SiO<sub>2</sub>) . . . . . max. 0,025 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,006 %  
 arsenic (As) . . . . . max. 1 ppm  
 antimony (Sb) . . . . . max. 2 ppm  
 cadmium (Cd) . . . . . max. 1 ppm  
 calcium (Ca) . . . . . max. 0,005 %  
 chromium (Cr) . . . . . max. 1 ppm  
 cobalt (Co) . . . . . max. 1 ppm  
 copper (Cu) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 1 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 manganese (Mn) . . . . . max. 1 ppm  
 nickel (Ni) . . . . . max. 1 ppm  
 potassium (K) . . . . . max. 5 ppm  
 sodium (Na) . . . . . max. 0,05 %  
 zinc (Zn) . . . . . max. 2 ppm  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 volatile acids (as CH<sub>3</sub>COOH) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
AC10961000	1 l	Ⓟ
AC1096005P	5 l	Ⓟ

## ortho-PHOSPHORIC ACID, VOLUMETRIC SOLUTIONS

### AC1106 ortho-Phosphoric acid, solution 1 mol/l

- H<sub>3</sub>PO<sub>4</sub>
- M = 98,00 g/mol
- CAS [7664-38-2]
- EINECS-No.: 231-633-2
- Density: 1,04 g/cm<sup>3</sup>
- LD 50 (oral, rat): 1530 mg/kg (anhydrous substance)
- EC-Index-No.: 015-011-00-6
- Tariff number: 2809 20 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,098 g H<sub>3</sub>PO<sub>4</sub>  
 This volumetric solution was checked by means of potentiometric methods using a sodium hydroxide standard solution, that was also checked against Scharlab's potassium hydrogen phthalate volumetric standard. Scharlab's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC11061000	1 l	Ⓟ

## DI-PHOSPHORUS PENTOXIDE

- Synonyms: Phosphoric anhydride
- $P_2O_5$
- $M = 141,96 \text{ g/mol}$
- CAS [1314-56-3]
- EINECS-No.: 215-236-1
- Solub. in water: (20 °C): hydrolysis reaction
- Melting point: ~ 580 - 585 °C
- Boiling point: 591 °C
- Vapour pressure: (20 °C) < 0,1 hPa
- EC-Index-No.: 015-010-00-0
- ADR: 8 C2 II UN 1807
- IMDG: 8 II UN 1807
- IATA/ICAO: 8 II UN 1807
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2809 10 00 00
- Applications: analytical chemistry, synthesis of organic products, manufacture of dyes, desiccant.

### AN0215 di-Phosphorus pentoxide, EssentQ®

assay (acidimetric) . . . . . min. 97 %

ART. NO.	VOLUME	CONTAINER
AN02151000	1 kg	0

### AN0217 di-Phosphorus pentoxide, ExpertQ®, for analysis, ACS, ISO

assay (acidimetric) . . . . . min. 99,5 %  
 identity . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,0005 %  
 total nitrogen (as N) . . . . . max. 0,002 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,001 %  
 antimony (Sb) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 0,01 %  
 cadmium (Cd) . . . . . max. 5 ppm  
 calcium (Ca) . . . . . max. 0,005 %  
 cobalt (Co) . . . . . max. 5 ppm

copper (Cu) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 manganese (Mn) . . . . . max. 5 ppm  
 nickel (Ni) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,002 %  
 sodium (Na) . . . . . max. 0,005 %  
 zinc (Zn) . . . . . max. 5 ppm  
 substances reducing KMnO<sub>4</sub> (as P<sub>2</sub>O<sub>5</sub>) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
AN02170500	500 g	0
AN02171000	1 kg	0
AN0217025P	25 kg	P

## PHOSPHORUS RED

### FO0030 Phosphorus red, EssentQ®

- P
- $M = 30,97 \text{ g/mol}$
- CAS [7723-14-0]
- EINECS-No.: 231-768-7
- Solub. in water: (20 °C): insoluble
- Ignition temp.: 300 °C
- EC-Index-No.: 015-002-00-7
- ADR: 4.1 F3 III UN 1338
- IMDG: 4.1 III UN 1338
- IATA/ICAO: 4.1 III UN 1338
- GHS-signal word: Danger
- GHS-H sentences: H228 - H412
- GHS-P sentences: P210 - P241 - P280 - P240 - P273 - P501a
- Tariff number: 2804 70 00 00
- Applications: synthesis of organic products, inorganic salts, in pyrotechnics, in fertilizer compositions.

assay . . . . . min. 97 %  
 iron (Fe) . . . . . max. 0,2 %  
 yellow phosphorus . . . . . passes test

ART. NO.	VOLUME	CONTAINER
FO00300250	250 g	0
FO00301000	1 kg	0

## PHOSPHOTUNGSTIC ACID HYDRATE

### AC1130 Phosphotungstic acid hydrate, ExpertQ®, for analysis

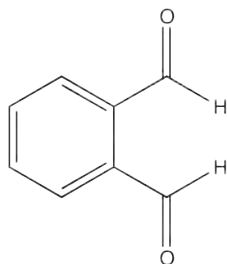
- Synonyms: Tungstophosphoric acid hydrate
- $H_3[P(W_3O_{10})_4] \cdot xH_2O$
- $M = 2880,17 \text{ g/mol}$
- CAS [12501-23-4]
- EINECS-No.: 215-682-7
- Solub. in water: (20 °C): soluble
- Melting point: 107 °C
- ADR: 8 C2 III UN 3260
- IMDG: 8 III UN 3260
- IATA/ICAO: 8 III UN 3260
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2811 19 80 90
- Applications: analytical chemistry, reagent for organic compounds detection.

chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 total nitrogen (as N) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,002 %  
 potassium (K) . . . . . max. 0,02 %  
 sodium (Na) . . . . . max. 0,02 %  
 loss on ignition (750 °C) . . . . . max. 17 %

ART. NO.	VOLUME	CONTAINER
AC11300025	25 g	0
AC11300100	100 g	0

## PHTHALDIALDEHYDE

AL0580 Phthalaldehyde, for aminoacid analysis



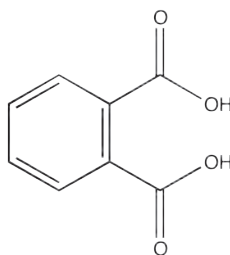
- Synonyms: OPA
- $C_8H_6O_2$
- $M = 134,14$  g/mol
- CAS [643-79-8]
- EINECS-No.: 211-402-2
- Solub. in water: (25 °C): soluble
- Melting point: 53 - 55 °C
- Flash pt. > 110 °C
- ADR: 6.1 TC2 II UN 2928
- IMDG: 6.1 II UN 2928
- IATA/ICAO: 6.1 II UN 2928
- GHS-signal word: Danger
- GHS-H sentences: H301 - H314 - H400 - H317
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2912 29 00 90
- Applications: analytical chemistry, fluorescent indicator.

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AL05800005	5 g	0

## ortho-PHTHALIC ACID

AC1140 ortho-Phthalic acid, ExpertQ®, for analysis



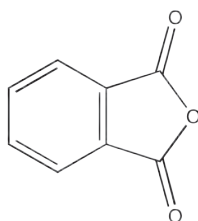
- Synonyms: Phthalic acid, Orthophthalic acid, 1,2-Benzenedicarboxylic acid
- $C_8H_6O_4$
- $M = 166,13$  g/mol
- CAS [88-99-3]
- EINECS-No.: 201-873-2
- Solub. in water: (20 °C): 5,74 g/l
- Melting point: 206 - 208 °C
- Flash pt. 168 °C
- LD 50 (oral, rat): 7900 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2917 39 80 80
- Applications: analytical chemistry, laboratory reagent, solvents, perfumery.

assay (acidimetric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in  $Na_2CO_3$  solution . . . . . max. 0,05 %  
 chlorides (Cl) . . . . . max. 0,0003 %  
 nitrates ( $NO_3$ ) . . . . . max. 0,0005 %  
 sulfates ( $SO_4$ ) . . . . . max. 0,0005 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %  
 residue on ignition . . . . . max. 0,02 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC11400250	250 g	0

## PHTHALIC ANHYDRIDE

AN0230 Phthalic anhydride, EssentQ®

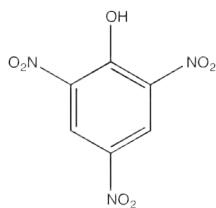


- Synonyms: 1,2-Benzenedicarboxylic acid anhydride
- $C_8H_4O_3$
- $M = 148,12$  g/mol
- CAS [85-44-9]
- EINECS-No.: 201-607-5
- Solub. in water: (20 °C): 6 g/l
- Melting point: 129-132 °C
- Boiling point: 285 °C
- Flash pt. 151 °C
- Ignition temp.: 580 °C
- Vapour pressure: (20 °C) < 0,01 hPa
- LD 50 (oral, rat): 1530 mg/kg
- EC-Index-No.: 607-009-00-4
- ADR: 8 C4 III UN 2214
- IMDG: 8 III UN 2214
- IATA/ICAO: 8 III UN 2214
- GHS-signal word: Danger
- GHS-H sentences: H334 - H318 - H302 - H335 - H315 - H317
- GHS-P sentences: P285 - P261 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2917 35 00 00
- Applications: synthesis of organic products, manufacturing of synthetic resins.

assay (acidimetric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AN02300500	500 g	0
AN02301000	1 kg	0

## PICRIC ACID



- Synonyms: 2,4,6-Trinitrophenol
- $C_6H_3N_3O_7$
- $M = 229,11$  g/mol
- CAS [88-89-1]
- EINECS-No.: 201-865-9
- Solub. in water: (20 °C): slightly soluble
- Melting point: 121,4 °C
- Flash pt. 150 °C
- Ignition temp.: 300 °C
- LD 50 (oral, rat): 200 mg/kg
- EC-Index-No.: 609-009-00-X

- ADR: 4.1 D I UN 1344
- IMDG: 4.1 I UN 1344
- IATA/ICAO: 4.1 I UN 1344
- GHS-signal word: Danger
- GHS-H sentences: H228 - H301 - H311 - H331 - EUH001
- GHS-P sentences: P301 + P310 - P321 - P330 - P361 + P364 - P405 - P501a
- Tariff number: 2908 99 00 90
- Applications: analytical chemistry, laboratory reagent, chromatography.

AC1769 Picric acid (with approx. 30% H<sub>2</sub>O), EssentQ®



assay (acidimetric, on dried sample) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
insoluble and resinous matter . . . . . max. 0,1 %  
chlorides (Cl) . . . . . max. 0,005 %

sulfates (SO<sub>4</sub>) . . . . . max. 0,5 %  
residue on ignition . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC17690250	250 g	0
AC17690500	500 g	0

AC1770 Picric acid (with approx. 30% H<sub>2</sub>O), ExpertQ®, for analysis, ACS, Reag. Ph Eur



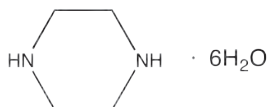
assay (acidimetric, on dried sample) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in toluene . . . . . max. 0,1 %  
insoluble and resinous matter . . . . . max. 0,01 %

insoluble in water . . . . . max. 0,03 %  
chlorides (Cl) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
residue on ignition . . . . . max. 0,05 %  
water . . . . . min. 30 %

ART. NO.	VOLUME	CONTAINER
AC17700250	250 g	0
AC17700500	500 g	0

## PIPERAZINE HEXAHYDRATE

PI0050 Piperazine hexahydrate, extra pure, Pharmpur®, Ph Eur, BP



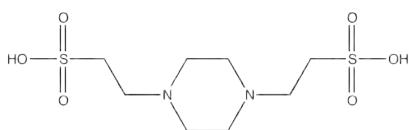
- Synonyms: Diethylenediamine
- $C_4H_{10}N_2 \cdot 6H_2O$
- $M = 194,23$  g/mol
- CAS [142-63-2]
- EINECS-No.: 203-808-3
- Solub. in water: (20 °C): 300 °C
- Melting point: 43 - 45 °C
- Boiling point: ~ 105 °C
- Flash pt. > 80 °C
- Ignition temp.: > 150 °C
- Vapour pressure: (20 °C) 2,6 hPa
- EC-Index-No.: 612-057-00-4
- ADR: 8 C8 III UN 2579
- IMDG: 8 III UN 2579
- IATA/ICAO: 8 III UN 2579
- GHS-signal word: Danger
- GHS-H sentences: H334 - H314 - H317 - H412
- GHS-P sentences: P260 - P285 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2933 59 95 90
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products, in the pharmaceuticals industry, in pharma industry.

assay (titration with HClO<sub>4</sub>) . . . . . 98,0 - 101,0 %  
identification . . . . . passes test  
appearance of solution . . . . . passes test  
pH (5 %, H<sub>2</sub>O) . . . . . 10,5 - 12,0  
related substances . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PI00500500	500 g	0

## PIPES FREE ACID

PI0061 PIPES free acid, molecular biology grade



- Synonyms: Piperazine-N,N'-bis(2-ethanesulfonic acid)
- $C_{12}H_{18}N_2O_6S_2$
- $M = 302,36$  g/mol
- CAS [5625-37-6]
- EINECS-No.: 227-057-6
- Solub. in water: (20 °C): slightly soluble
- Tariff number: 2933 59 95 90
- Applications: laboratory reagent, in buffer solutions, in biochemistry.

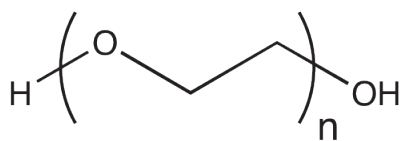
assay (acidimetric) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
absorbance of a 0,1 M solution in NaOH  
1 M in a 1 cm cell at 260 nm . . . . . max. 0,05 AU  
absorbance of a 0,1 M solution in NaOH  
1 M in a 1 cm cell at 280 nm . . . . . max. 0,05 AU  
heavy metals (as Pb) . . . . . max. 0,001 %  
DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
PI00610025	25 g	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## POLYETHYLENE GLYCOL 200

PO0025 Polyethylene glycol 200, EssentQ®



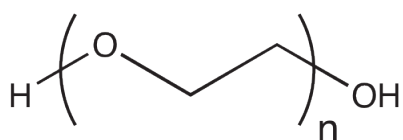
- Synonyms: Carbowax, PEG, Polyoxyethylene glycol, Polyglycol, Polyethylene oxide
- $\text{HO}(\text{C}_2\text{H}_4\text{O})_n\text{H}$
- $M = 190 - 210 \text{ g/mol}$
- CAS [25322-68-3]
- EINECS-No.: 203-473-3
- Density:  $1,124 \text{ g/cm}^3$
- Solub. in water: (20 °C): freely miscible
- Melting point:  $-55 - -40 \text{ }^\circ\text{C}$
- Boiling point:  $> 250 \text{ }^\circ\text{C}$
- Flash pt.  $180 \text{ }^\circ\text{C}$
- Ignition temp.:  $350 \text{ }^\circ\text{C}$
- Vapour pressure: (20 °C)  $< 0,1 \text{ hPa}$
- LD 50 (oral, rat):  $28000 \text{ mg/kg}$
- Tariff number: 3404 20 00 00
- Applications: synthesis of organic products, in food industry, cosmetics.

identity (IR-spectrum) .....passes test  
density (20°/4°) ..... 1,124 - 1,126  
average molar mass ..... 190 - 210  
hydroxyl number ..... 535 - 590

ART. NO.	VOLUME	CONTAINER
PO00251000	1 l	




## POLYETHYLENE GLYCOL 300

PO0030 Polyethylene glycol 300, EssentQ®



- Synonyms: Carbowax, PEG, Polyoxyethylene glycol, Polyglycol, Polyethylene oxide
- $\text{HO}(\text{C}_2\text{H}_4\text{O})_n\text{H}$
- $M = 300 \text{ g/mol}$
- CAS [25322-68-3]
- EINECS-No.: 203-473-3
- Density:  $1,13 \text{ g/cm}^3$
- Solub. in water: (20 °C): freely miscible
- Melting point:  $-15 - -10 \text{ }^\circ\text{C}$
- Flash pt.  $220 \text{ }^\circ\text{C}$
- Ignition temp.:  $370 \text{ }^\circ\text{C}$
- Vapour pressure: (20°C)  $15000 \text{ mg/kg}$
- Tariff number: 3404 20 00 00
- Applications: synthesis of organic products, in food industry, cosmetics.

identity (IR-spectrum) .....passes test  
density (20°/4°) ..... 1,125 - 1,127  
average molar mass ..... 285 - 315  
hydroxyl number ..... 356 - 394

ART. NO.	VOLUME	CONTAINER
PO00301000	1 l	
PO0030005P	5 l	
PO0030025P	25 l	



## POLYETHYLENE GLYCOL 400

PO0035 Polyethylene glycol 400, EssentQ®



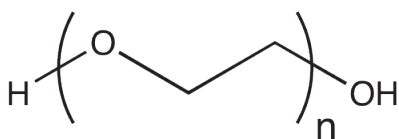
- Synonyms: Carbowax, PEG, Polyoxyethylene glycol, Polyglycol, Polyethylene oxide
- $\text{HO}(\text{C}_2\text{H}_4\text{O})_n\text{H}$
- $M = 380 - 420 \text{ g/mol}$
- CAS [25322-68-3]
- EINECS-No.: 203-473-3
- Density:  $1,13 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $4 - 8 \text{ }^\circ\text{C}$
- Boiling point:  $> 250 \text{ }^\circ\text{C}$
- Flash pt.  $240 \text{ }^\circ\text{C}$
- Ignition temp.:  $\sim 370 \text{ }^\circ\text{C}$
- Vapour pressure: (20 °C)  $< 0,1 \text{ hPa}$
- LD 50 (oral, rat):  $30200 \text{ mg/kg}$
- Tariff number: 3404 20 00 00
- Applications: analytical chemistry, chromatography, synthesis of organic products, in food industry, cosmetics.

identity (IR-spectrum) .....passes test  
density (20°/4°) ..... 1,124 - 1,126  
average molar mass ..... 380 - 420  
hydroxyl number ..... 267 - 295

ART. NO.	VOLUME	CONTAINER
PO00351000	1 l	
PO0035005P	5 l	
PO0035025P	25 l	

## POLYETHYLENE GLYCOL 600

PO0045 Polyethylene glycol 600, EssentQ®



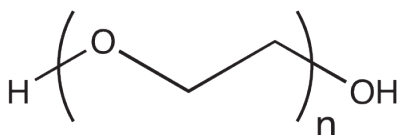
- Synonyms: Carbowax, PEG, Polyoxyethylene glycol, Polyglycol, Polyethylene oxide
- $\text{HO}(\text{C}_2\text{H}_4\text{O})_n\text{H}$
- $M = 600 \text{ g/mol}$
- CAS [25322-68-3]
- EINECS-No.: 203-473-3
- Density:  $1,13 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point: 17 - 22 °C
- Flash pt. 270 °C
- Ignition temp.: 380 °C
- Vapour pressure: (20°C) 15000 mg/kg
- Tariff number: 3404 20 00 00
- Applications: synthesis of organic products, in food industry, cosmetics.

identity (IR-spectrum) .....passes test  
density (20°/4°) ..... 1,126 - 1,128  
average molar mass ..... 570 - 630  
hydroxyl number ..... 178 - 197

ART. NO.	VOLUME	CONTAINER
PO00451000	1 l	
PO0045005P	5 l	

## POLYETHYLENE GLYCOL 1500

PO0050 Polyethylene glycol 1500, EssentQ®



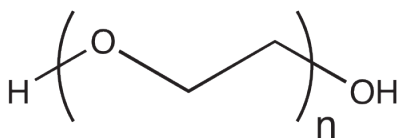
- Synonyms: Carbowax, PEG, Polyoxyethylene glycol, Polyglycol, Polyethylene oxide
- $\text{HO}(\text{C}_2\text{H}_4\text{O})_n\text{H}$
- $M = 1400 - 1600 \text{ g/mol}$
- CAS [25322-68-3]
- EINECS-No.: 203-473-3
- Solub. in water: (20 °C): ~ 700 g/l
- Melting point: 42 - 48 °C
- Flash pt. 260 °C
- Ignition temp.: 420 °C
- Vapour pressure: (20 °C) < 0,01 hPa
- LD 50 (oral, rat): 44200 mg/kg
- Tariff number: 3404 20 00 00
- Applications: synthesis of organic products, in food industry, cosmetics.

identity (IR-spectrum) .....passes test  
average molar mass ..... 1400 - 1600  
melting range ..... 42 - 48°C  
hydroxyl number ..... 70 - 80

ART. NO.	VOLUME	CONTAINER
PO00501000	1 kg	
PO0050025P	25 kg	

## POLYETHYLENE GLYCOL 4000

PO0060 Polyethylene glycol 4000, EssentQ®

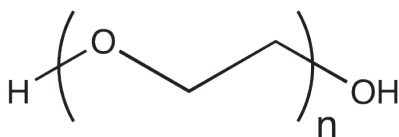


- Synonyms: Carbowax, PEG, Polyoxyethylene glycol, Polyglycol, Polyethylene oxide
- $\text{HO}(\text{C}_2\text{H}_4\text{O})_n\text{H}$
- $M = 3500 - 4500 \text{ g/mol}$
- CAS [25322-68-3]
- EINECS-No.: 203-473-3
- Solub. in water: (20 °C): ~ 550 g/l
- Melting point: 54 - 58 °C
- Flash pt. 250 °C
- Ignition temp.: 420 °C
- Vapour pressure: (20 °C) < 0,1 hPa
- LD 50 (oral, rat): 50000 mg/kg
- Tariff number: 3404 20 00 00
- Applications: analytical chemistry, chromatography, synthesis of organic products, in food industry, cosmetics.

identity (IR-spectrum) .....passes test  
average molar mass ..... 3500 - 4500  
melting range ..... 58 - 61°C  
hydroxyl number ..... 25 - 32

ART. NO.	VOLUME	CONTAINER
PO00601000	1 kg	
PO0060025P	25 kg	

## POLYETHYLENE GLYCOL 6000



- Synonyms: Carbowax, PEG, Polyoxyethylene glycol, Polyglycol, Polyethylene oxide
- $\text{HO}(\text{C}_2\text{H}_4\text{O})_n\text{H}$
- $M = 6000 \text{ g/mol}$
- CAS [25322-68-3]
- EINECS-No.: 203-473-3
- Solub. in water: (20 °C): ~ 500 g/l
- Melting point: 55 - 62 °C

- Flash pt. 250 °C
- Ignition temp.: 420 °C
- Vapour pressure: (20 °C) 50000 mg/kg
- Tariff number: 3404 20 00 00
- Applications: synthesis of organic products, in food industry, cosmetics.

A  
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## PO0065 Polyethylene glycol 6000, EssentQ®

identity (IR-spectrum) .....passes test  
 average molar mass .....5000 - 7000  
 melting range ..... 56 - 61°C  
 hydroxyl number ..... 16 - 23

ART. NO.	VOLUME	CONTAINER
PO00651000	1 kg	

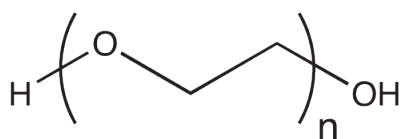
## PO0066 Polyethylene glycol 6000, molecular biology grade

identity (IR-spectrum) .....passes test  
 absorbance of an aqueous solution  
 0,01 M in a 1 cm cell at 280 nm ..... max. 0,100 AU  
 0,01 M in a 1 cm cell at 260 nm .....max. 0,200 AU  
 heavy metals (as Pb) ..... max. 5 ppm  
 DNases, RNases, Proteases ..... non detected

ART. NO.	VOLUME	CONTAINER
PO00660100	100 g	
PO00661000	1 kg	

## POLYETHYLENE GLYCOL 8000

### PO0069 Polyethylene glycol 8000, EssentQ®



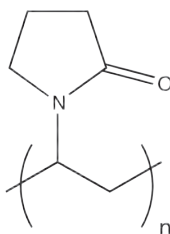
- Synonyms: Carbowax, PEG, Polyoxyethylene glycol, Polyglycol, Polyethylene oxide
- $\text{HO}(\text{C}_2\text{H}_4\text{O})_n\text{H}$
- $M = 8000 \text{ g/mol}$
- CAS [25322-68-3]
- EINECS-No.: 203-473-3
- Solub. in water: (20 °C): ~ 500 g/l
- Melting point: 56 - 63 °C
- Flash pt. > 270 °C
- Tariff number: 3404 20 00 00
- Applications: synthesis of organic products, in food industry, cosmetics, in the pharmaceuticals industry, in biochemistry.

average molar mass .....7000 - 9000  
 solubility (5 %,  $\text{H}_2\text{O}$ ) ..... total  
 pH (5 %,  $\text{H}_2\text{O}$ ) ..... 5,5 - 7,0  
 peroxides (as  $\text{H}_2\text{O}_2$ ) ..... max. 0,001 %  
 chlorides (Cl) ..... max. 0,005 %

ART. NO.	VOLUME	CONTAINER
PO00691000	1 kg	
PO0069005P	5 kg	
PO0069025P	25 kg	

## POLYVINYLPIRROLIDONE

### PO0080 Polyvinylpyrrolidone, molecular biology grade

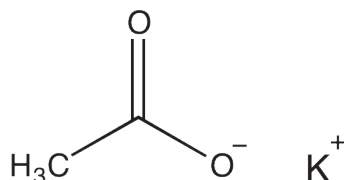


- Synonyms: PVP
- $(\text{C}_6\text{H}_9\text{NO})_n$
- CAS [9003-39-8]
- EINECS-No.: 201-800-4
- Solub. in water: (23 °C): > 270 g/l
- Melting point: > 130 °C (decomposes)
- Flash pt. > 215 °C
- Ignition temp.: 425 °C
- LD 50 (oral, rat): > 2000 mg/kg
- Tariff number: 3905 99 90 99
- Applications: in biochemistry, cosmetics, in the pharmaceuticals industry, photography.

nitrogen content (referred to  
 dried sample) ..... 11,5 - 12,8 %  
 heavy metals (as Pb) ..... max. 0,001 %  
 loss on drying (105 °C) ..... max. 5 %  
 DNases, RNases, Proteases ..... non detected

ART. NO.	VOLUME	CONTAINER
PO00800100	100 g	
PO00801000	1 kg	

## POTASSIUM ACETATE



- Synonyms: Acetic acid potassium salt
- $\text{CH}_3\text{COOK}$
- $M = 98,15 \text{ g/mol}$
- CAS [127-08-2]
- EINECS-No.: 204-822-2
- Solub. in water: (20 °C): soluble
- Melting point: 292 °C
- Flash pt. > 250 °C

- LD 50 (oral, rat): 3250 mg/kg
- Tariff number: 2915 29 00 90
- Applications: analytical chemistry, laboratory reagent, in food industry.

### PO0109 Potassium acetate, extra pure, Pharmpur®, Ph Eur, BP

assay (titr. with  $\text{HClO}_4$ )  
 on dried sample) ..... 99,0 - 101,0 %  
 identification .....passes test  
 appearance of solution .....clear and colourless  
 pH (5 %, 20 °C) ..... 7,5 - 9,0  
 chlorides (Cl) ..... max. 200 ppm  
 sulfates ( $\text{SO}_4$ ) ..... max. 200 ppm  
 iron (Fe) ..... max. 20 ppm

sodium (Na) .....max. 0,5 %  
 reducing substances .....passes test  
 loss on drying (105 °C) ..... max. 3,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PO01091000	1 kg	
PO0109025P	25 kg	

PO0112 Potassium acetate, molecular biology grade

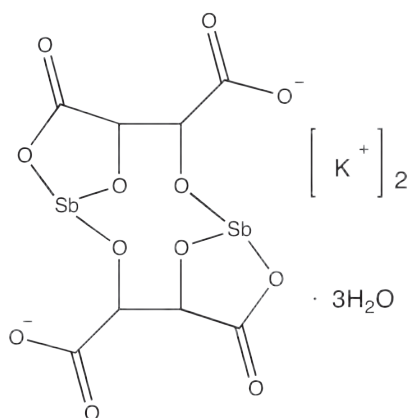
assay (titration with  $\text{HClO}_4$ , on dried sample) .....min. 99 %  
pH (5 %,  $\text{H}_2\text{O}$ ) ..... 7,5 - 8,5  
heavy metals (as Pb) .....max. 0,0004 %

DNases, RNases, Proteases ..... non detected

ART. NO.	VOLUME	CONTAINER
PO01120250	250 g	
PO01121000	1 kg	

**POTASSIUM ANTIMONY(III) TARTRATE TRIHYDRATE**

PO0125 Potassium antimony(III) tartrate trihydrate, EssentQ®



- Synonyms: Potassium antimony(III) oxide tartrate trihydrate, Potassium antimonyl tartrate, Tartar emetic, Antimony potassium tartrate
- $\text{C}_8\text{H}_4\text{K}_2\text{O}_{12}\text{Sb}_2 \cdot 3\text{H}_2\text{O}$
- $M = 667,87 \text{ g/mol}$
- CAS [28300-74-5]
- EINECS-No.: 234-293-3
- Solub. in water: (20 °C): 83 g/l
- LD 50 (oral, rat): 115 mg/kg
- EC-Index-No.: 051-003-00-9
- ADR: 6.1 T5 III UN 1551
- IMDG: 6.1 III UN 1551
- IATA/ICAO: 6.1 III UN 1551
- GHS-signal word: Warning
- GHS-H sentences: H302 - H332 - H411
- GHS-P sentences: P261 - P273 - P264 - P270 - P304 + P340 - P501a
- Tariff number: 2918 13 00 90
- Applications: mordant/corrosive (in the textile industry), in pesticide compositions, analytical chemistry, for determination of: lead, sodium, germanium (i.a.).
- Appearance: Colourless solid

assay (iodometric) .....min. 98 %  
insoluble in water .....max. 0,05 %  
pH (5 %,  $\text{H}_2\text{O}$ ) ..... 3 - 5  
chlorides ( $\text{Cl}^-$ ) .....max. 0,01 %  
sulfates ( $\text{SO}_4$ ) .....max. 0,02 %

ART. NO.	VOLUME	CONTAINER
PO01250500	500 g	
PO01251000	1 kg	

**POTASSIUM BROMATE**

- Synonyms: Bromic acid potassium salt
- $\text{KBrO}_3$
- $M = 167,01 \text{ g/mol}$
- CAS [7758-01-2]
- EINECS-No.: 231-829-8
- Solub. in water: (20 °C): ~ 70 g/l
- Melting point: 434 °C

- LD 50 (oral, rat): 157 mg/kg
- EC-Index-No.: 035-003-00-6
- ADR: 5.1 O2 II UN 1484
- IMDG: 5.1 II UN 1484
- IATA/ICAO: 5.1 II UN 1484
- GHS-signal word: Danger
- GHS-H sentences: H271 - H301 - H350

- GHS-P sentences: P221 - P283 - P210 - P306 + P360 - P405 - P501a
- Tariff number: 2829 90 40 00
- Applications: analytical chemistry, laboratory reagent, in food industry.
- Appearance: White crystalline powder

PO0160 Potassium bromate, EssentQ®



assay (iodometric) .....min. 99 %  
insoluble in water .....max. 0,01 %  
pH (5 %,  $\text{H}_2\text{O}$ ) ..... 5 - 9  
nitrogen compounds (as N) .....max. 0,005 %  
bromides (Br) .....max. 0,05 %  
sulfates ( $\text{SO}_4$ ) .....max. 0,025 %

copper (Cu) .....max. 0,002 %  
iron (Fe) .....max. 0,002 %  
lead (Pb) .....max. 0,002 %  
nickel (Ni) .....max. 0,002 %  
loss on drying (105 °C) .....max. 0,1 %

ART. NO.	VOLUME	CONTAINER
PO01600500	500 g	
PO01601000	1 kg	

PO0163 Potassium bromate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (iodometric, on dried sample) ..... min. 99,8 %  
insoluble in water .....max. 0,005 %  
pH (5 %,  $\text{H}_2\text{O}$ ) ..... 5 - 9  
bromides (Br) .....max. 0,02 %  
sulfates ( $\text{SO}_4$ ) .....max. 0,005 %

total nitrogen (as N) .....max. 0,001 %  
heavy metals (as Pb) .....max. 5 ppm  
iron (Fe) .....max. 5 ppm  
sodium (Na) .....max. 0,01 %

ART. NO.	VOLUME	CONTAINER
PO01630500	500 g	
PO01631000	1 kg	
PO0163025P	25 kg	

## POTASSIUM BROMATE, VOLUMETRIC SOLUTIONS

PO0165 Potassium bromate, solution 1/60 mol/l (0.1 N)



- $\text{KBrO}_3$
- $M = 167,01 \text{ g/mol}$
- CAS [7758-01-2]
- EINECS-No.: 231-829-8
- Density:  $\sim 1,002 \text{ g/cm}^3$
- LD 50 (oral, rat): 157 mg/kg (pure substance)
- EC-Index-No.: 035-003-00-6
- GHS-signal word: Danger
- GHS-H sentences: H350
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2829 90 40 00
- Applications: analytical chemistry.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 $1 \text{ ml} = 0,0027835 \text{ g KBrO}_3$   
 This volumetric solution was checked by means of potentiometric methods using a sodium thiosulfate standard solution, that was also checked against Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO01651000	1 l	

## POTASSIUM BROMIDE

- KBr
- $M = 119,01 \text{ g/mol}$
- CAS [7758-02-3]
- EINECS-No.: 231-830-3

- Solub. in water: (20 °C): 540 g/l
- Melting point: 730 °C
- Boiling point: 1380 °C
- Vapour pressure: (795 °C) 1,3 hPa

- LD 50 (oral, rat): 3070 mg/kg
- Tariff number: 2827 51 00 00
- Applications: analytical chemistry, laboratory reagent, photography.

PO0166 Potassium bromide, EssentQ®

assay (argentometric) . . . . . min. 99,5 %

ART. NO.	VOLUME	CONTAINER
PO0166025P	25 kg	
PO01660500	500 g	

ART. NO.	VOLUME	CONTAINER
PO01661000	1 kg	
PO0166005P	5 kg	

PO0167 Potassium bromide, ExpertQ®, for analysis, ACS

assay (argentometric) . . . . . min. 99,5 %  
 identity . . . . . passes test  
 appearance of solution . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 5,0 - 8,8  
 acidity or alkalinity . . . . . passes test  
 bromates ( $\text{BrO}_3$ ) . . . . . max. 0,001 %  
 chlorides (Cl) . . . . . max. 0,1 %  
 iodates ( $\text{IO}_3$ ) . . . . . max. 0,001 %  
 iodides (I) . . . . . max. 0,001 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,005 %  
 total nitrogen (as N) . . . . . max. 0,001 %

arsenic (As) . . . . . max. 1 ppm  
 barium (Ba) . . . . . max. 0,002 %  
 cadmium (Cd) . . . . . max. 5 ppm  
 calcium (Ca) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 sodium (Na) . . . . . max. 0,02 %  
 zinc (Zn) . . . . . max. 5 ppm  
 loss on drying (105 °C) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
PO01670500	500 g	
PO01671000	1 kg	

PO0168 Potassium bromide, IR spectroscopy grade

suitability for IR spectroscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
PO01680100	100 g	

ART. NO.	VOLUME	CONTAINER
PO01680250	250 g	

## POTASSIUM CARBONATE

- Synonyms: Potash
- $\text{K}_2\text{CO}_3$
- $M = 138,21 \text{ g/mol}$
- CAS [584-08-7]
- EINECS-No.: 209-529-3
- Solub. in water: (20 °C): soluble

- Melting point: 891 °C
- LD 50 (oral, rat):  $> 2000 \text{ mg/kg}$
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2836 40 00 00
- Applications: analytical chemistry, laboratory reagent, manufacture of glass, in the ceramics industry, inorganic salts, cosmetics.

PO0170 Potassium carbonate, extra pure, Phampur®, Ph Eur, BP, USP



assay (acidimetric, referred to dried sample) . . . . . 99,5 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 insoluble matter . . . . . passes test  
 chlorides (Cl) . . . . . max. 100 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 100 ppm  
 calcium (Ca) . . . . . max. 100 ppm

iron (Fe) . . . . . max. 10 ppm  
 loss on drying (125 °C, 5 h) . . . . . max. 5,0 %  
 loss on drying (180 °C, 4h) . . . . . max. 0,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PO01700500	500 g	
PO01701000	1 kg	
PO0170005P	5 kg	
PO0170025P	25 kg	

PO0171 Potassium carbonate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (acidimetric, on dried sample) . . . . . min. 99,0 %  
 assay (acidimetric) . . . . . min. 99,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble matter . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,003 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
 phosphates and silicates (as SiO<sub>2</sub>) . . . . . max. 0,005 %  
 silicates (SiO<sub>2</sub>) . . . . . max. 0,005 %  
 total nitrogen (as N) . . . . . max. 0,001 %

total sulphur (as SO<sub>4</sub>) . . . . . max. 0,003 %  
 calcium (Ca) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 5 ppm  
 heavy metals . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,002 %  
 sodium (Na) . . . . . max. 0,02 %  
 loss on drying (300 °C) . . . . . max. 1,0 %

ART. NO.	VOLUME	CONTAINER
PO01710500	500 g	
PO01711000	1 kg	
PO0171005P	5 kg	
PO0171025P	25 kg	

**POTASSIUM CARBONATE/SODIUM CARBONATE ANHYDROUS, MIXTURE 50%**

PO0175 Potassium carbonate/sodium carbonate anhydrous, mixture 50%, ExpertQ®, for analysis



- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, laboratory reagent.

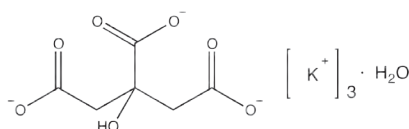
assay (acidimetric) . . . . . min. 99,0 %  
 insoluble in water . . . . . max. 0,01 %  
 nitrogen compounds (as N) . . . . . max. 0,001 %  
 sulphur compounds (as SO<sub>4</sub>) . . . . . max. 0,003 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 1 ppm  
 calcium (Ca) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 5 ppm

iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,005 %  
 nickel (Ni) . . . . . max. 5 ppm

ART. NO.	VOLUME	CONTAINER
PO01751000	1 kg	

**TRI-POTASSIUM CITRATE MONOHYDRATE**

PO0186 tri-Potassium citrate monohydrate, extra pure, Phampur®, Ph Eur, BP, USP



- Synonyms: Citric acid potassium salt, Tripotassium citrate
- C<sub>6</sub>H<sub>5</sub>K<sub>3</sub>O<sub>7</sub> · H<sub>2</sub>O
- M = 324,42 g/mol
- CAS [6100-05-6]
- EINECS-No.: 212-755-5
- Solub. in water: (20 °C): soluble
- Melting point: 230 °C (decomposes)
- Tariff number: 2918 15 00 90
- Applications: in food industry (E-332), antioxidant, preservative agent, laboratory reagent, in pharma industry.

assay (titr. with HClO<sub>4</sub>, referred to dried sample) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 acidity or alkalinity . . . . . passes test  
 alkalinity . . . . . passes test  
 chlorides (Cl) . . . . . max. 50 ppm  
 oxalates (C<sub>2</sub>O<sub>4</sub>) . . . . . max. 300 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 150 ppm  
 tartrates (C<sub>4</sub>O<sub>6</sub>) . . . . . passes test  
 sodium (Na) . . . . . max. 0,3 %  
 readily carbonizable substances . . . . . passes test  
 loss on drying (180 °C) . . . . . 3,0 - 6,0 %  
 water (K.F.) . . . . . 4,0 - 7,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PO01860500	500 g	
PO01861000	1 kg	
PO0186005P	5 kg	

## POTASSIUM CYANIDE

PO0180 Potassium cyanide, EssentQ®, Reag. Ph Eur



- Synonyms: Cyanogen potassium
- KCN
- M = 65,12 g/mol
- CAS [151-50-8]
- EINECS-No.: 205-792-3
- Solub. in water: (25 °C): 716 g/l
- Melting point: 634 °C
- Boiling point: 1625 °C
- Vapour pressure: (634,5 °C) 1,8 hPa
- LD 50 (oral, rat): 5 mg/kg
- EC-Index-No.: 006-007-00-5
- ADR: 6.1 T5 I UN 1680
- IMDG: 6.1 I UN 1680
- IATA/ICAO: 6.1 I UN 1680
- GHS-signal word: Danger
- GHS-H sentences: H300 - H310 - H330 - H400 - H410 - EUH032
- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a

- Tariff number: 2837 19 00 90
- Applications: for the extraction of gold and silver from minerals, laboratory reagent, fumigant, in galvanotechnia.

assay (argentometric) . . . . . min. 96 %  
 insoluble in water . . . . . max. 0,02 %  
 chlorides (Cl) . . . . . max. 0,1 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,02 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,05 %  
 sulfides (S) . . . . . max. 0,005 %  
 thiocyanates (SCN) . . . . . max. 0,05 %  
 iron (Fe) . . . . . max. 0,05 %  
 lead (Pb) . . . . . max. 0,001 %  
 sodium (Na) . . . . . max. 0,5 %  
 zinc (Zn) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
PO01800100	100 g	Ⓐ
PO01800250	250 g	Ⓐ
PO01801000	1 kg	Ⓐ
PO0180005P	5 kg	Ⓐ

## POTASSIUM CHLORATE

PO0190 Potassium chlorate, EssentQ®



assay (oxidimetric) . . . . . 99 - 101 %  
 appearance of solution . . . . . passes test  
 insoluble in water . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 5,0 - 9,0  
 chlorides (Cl) . . . . . max. 0,005 %  
 bromates (BrO<sub>3</sub>) . . . . . max. 0,005 %  
 nitrogen compounds (as N) . . . . . max. 0,005 %  
 arsenic (As) . . . . . max. 1 ppm

- Synonyms: Chloric acid potassium salt
- KClO<sub>3</sub>
- M = 122,55 g/mol
- CAS [3811-04-9]
- EINECS-No.: 223-289-7
- Solub. in water: (20 °C): 73 g/l
- Melting point: 356 °C
- Boiling point: 400 °C (decomposes)
- LD 50 (oral, rat): 1870 mg/kg
- EC-Index-No.: 017-004-00-3
- ADR: 5.1 O2 II UN 1485
- IMDG: 5.1 II UN 1485
- IATA/ICAO: 5.1 II UN 1485
- GHS-signal word: Danger

- GHS-H sentences: H271 - H302 - H332 - H411
- GHS-P sentences: P221 - P283 - P210 - P306 + P360 - P371 + P380 + P375 - P501a
- Tariff number: 2829 19 00 00
- Applications: analytical chemistry, laboratory reagent, in explosive compositions, manufacture of dyes and painting (in the textile industry), antiseptic.

ART. NO.	VOLUME	CONTAINER
PO01900500	500 g	Ⓐ
PO01901000	1 kg	Ⓐ
PO0190005P	5 kg	Ⓐ
PO0190025P	25 kg	Ⓐ

PO0193 Potassium chlorateExpertQ®, for analysis, ACS, Reag. Ph Eur,



assay (argentometric) . . . . . min. 99 %  
 identity . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 bromates (BrO<sub>3</sub>) . . . . . max. 0,015 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 total nitrogen (as N) . . . . . max. 0,0005 %

arsenic (As) . . . . . max. 0,00005 %  
 calcium (Ca) . . . . . max. 0,002 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 3 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 sodium (Na) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
PO01930500	500 g	Ⓐ
PO01931000	1 kg	Ⓐ
PO0193005P	5 kg	Ⓐ

## POTASSIUM CHLORIDE

- Synonyms: Chloro potassium
- KCl
- M = 74,56 g/mol
- CAS [7447-40-7]
- EINECS-No.: 231-211-8

- Solub. in water: (20 °C): 330 g/l
- Melting point: 773 °C
- Boiling point: 1413 °C
- LD 50 (oral, rat): 2600 mg/kg
- Tariff number: 3104 20 10 00

- Applications: analytical chemistry, laboratory reagent, photography, in buffer solutions, electrolyte for batteries.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## PO0199 Potassium chloride, extra pure, Phampur®, Ph Eur, BP, USP

assay (argentometric, on dried sample) . . . . . 99,0 -100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 acidity or alkalinity . . . . . passes test  
 bromides (Br) . . . . . max. 0,1 %  
 iodides (I) . . . . . passes test  
 sulfates (SO<sub>4</sub>) . . . . . max. 300 ppm  
 barium (Ba) . . . . . passes test

iron (Fe) . . . . . max. 20 ppm  
 magnesium and alkaline-earth metals (as Ca) . . . . . max. 200 ppm  
 sodium (Na) . . . . . passes test  
 loss on drying (105°C, 3 h) . . . . . max. 1,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PO01990500	500 g	Ⓟ
PO01991000	1 kg	Ⓟ
PO0199005P	5 kg	Ⓟ
PO0199025P	25 kg	Ⓟ

## PO0200 Potassium chloride, ExpertQ®, for analysis, Reag. Ph Eur

assay (argentometric) . . . . . min. 99,5 %  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 5,5 - 8,0  
 bromides (Br) . . . . . max. 0,05 %  
 iodides (I) . . . . . max. 0,002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,0005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 total nitrogen (as N) . . . . . max. 0,001 %

barium (Ba) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 3 ppm  
 magnesium (Mg) . . . . . max. 0,002 %  
 sodium (Na) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
PO02000250	250 g	Ⓟ
PO02000500	500 g	Ⓟ
PO02001000	1 kg	Ⓟ
PO0200005P	5 kg	Ⓟ
PO0200025P	25 kg	Ⓟ

## PO0207 Potassium chloride, secondary standard for volumetric titrations, Titrasure®

assay (on dried sample) . . . . . 99,0 - 100,5 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O, 25 °C) . . . . . 5,4 - 8,6  
 bromides (Br) . . . . . max. 0,01 %  
 chlorates and nitrates (as NO<sub>3</sub>) . . . . . max. 0,003 %  
 iodides (I) . . . . . max. 0,002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,0005 %

sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
 barium (Ba) . . . . . passes test  
 calcium (Ca) . . . . . max. 0,002 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 3 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 sodium (Na) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
PO02070100	100 g	Ⓟ

## PO0201 Potassium chloride, molecular biology grade

assay (argentometric) . . . . . min. 99,5 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 5,5 - 8,0  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,001 %

iron (Fe) . . . . . max. 3 ppm  
 DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
PO02010250	250 g	Ⓟ
PO02011000	1 kg	Ⓟ

## POTASSIUM CHLORIDE, SOLUTIONS

### PO0205 Potassium chloride, solution 3 mol/l, for filling electrodes

- KCl
- M = 74,56 g/mol
- CAS [7447-40-7]
- EINECS-No.: 231-211-8
- Density: 1,13 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 2600 mg/kg (pure substance)
- Tariff number: 3104 20 90 00

- Applications: analytical chemistry, laboratory reagent, for electroanalysis.

composition:  
 potassium chloride (KCl) . . . . . 224 g  
 water . . . . . 1 Liter

ART. NO.	VOLUME	CONTAINER
PO02050250	250 ml	Ⓟ
PO02051000	1 l	Ⓟ

### PO0206 Potassium chloride, solution 3,5 mol/l with silver chloride, for filling electrodes

- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 2600 mg/kg (pure substance)
- Tariff number: 3822 00 00 00
- Applications: for reference electrodes.

composition:  
 potassium chloride (KCl) . . . . . 260 g  
 silver chloride . . . . . saturated  
 water . . . . . 1 Liter

ART. NO.	VOLUME	CONTAINER
PO02060250	250 ml	Ⓟ



## POTASSIUM CHROMATE

PO0214 Potassium chromate, ExpertQ®, for analysis, ACS



- Synonyms: Chromic acid potassium salt
- $K_2CrO_4$
- $M = 194,2 \text{ g/mol}$
- CAS [7789-00-6]
- EINECS-No.: 232-140-5
- Solub. in water: (20 °C): 630 g/l
- Melting point: 968,3 °C
- Boiling point: 1000 °C
- LD 50 (oral, rat): 180 mg/kg
- EC-Index-No.: 024-006-00-8
- ADR: 6.1 T5 II UN 3288
- IMDG: 6.1 II UN 3288
- IATA/ICAO: 6.1 II UN 3288
- GHS-signal word: Danger

- GHS-H sentences: H340 - H350i - H410 - H315 - H319 - H317 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2841 50 00 00
- Applications: analytical chemistry, laboratory reagent, in the production of enamels, inorganic salts.
- Appearance: Yellow solid

assay (iodometric) . . . . . min. 99,5 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 8,6 - 9,8  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 calcium (Ca) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
PO02140500	500 g	Ⓟ
PO02141000	1 kg	Ⓟ
PO0214005P	5 kg	Ⓟ

## POTASSIUM CHROMATE, SOLUTION 10%

PO0216 Potassium chromate, solution 10% w/v, EssentQ®



- Synonyms: Chromic acid potassium salt
- $K_2CrO_4$
- $M = 194,21 \text{ g/mol}$
- CAS [7789-00-6]
- EINECS-No.: 232-140-5
- Density: ~ 1,08 g/cm<sup>3</sup>
- EC-Index-No.: 024-006-00-8
- ADR: 6.1 T4 III UN 3287
- IMDG: 6.1 III UN 3287
- IATA/ICAO: 6.1 III UN 3287
- GHS-signal word: Danger
- GHS-H sentences: H340 - H350i - H302 - H317 - H411

- GHS-P sentences: P261 - P280 - P281 - P321 - P405 - P501a
- Tariff number: 2841 50 00 00
- Applications: analytical chemistry, indicator.

assay (iodometric) . . . . . approx. 10 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,1 %  
 aluminium (Al) . . . . . max. 0,005 %  
 calcium (Ca) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
PO02160250	250 ml	Ⓟ

## POTASSIUM CHROMATE, SOLUTION 5%

PO0215 Potassium chromate, solution 5% w/v, EssentQ®



- Synonyms: Chromic acid potassium salt
- $K_2CrO_4$
- $M = 194,21 \text{ g/mol}$
- CAS [7789-00-6]
- EINECS-No.: 232-140-5
- Density: ~ 1,04 g/cm<sup>3</sup>
- EC-Index-No.: 024-006-00-8
- ADR: 6.1 T4 III UN 3287
- IMDG: 6.1 III UN 3287
- IATA/ICAO: 6.1 III UN 3287
- GHS-signal word: Danger
- GHS-H sentences: H340 - H350i - H317 - H411

- GHS-P sentences: P261 - P280 - P281 - P321 - P405 - P501a
- Tariff number: 2841 50 00 00
- Applications: analytical chemistry, indicator.

assay (iodometric) . . . . . approx. 5 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,1 %  
 aluminium (Al) . . . . . max. 0,005 %  
 calcium (Ca) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
PO02150250	250 ml	Ⓟ

## POTASSIUM DICHROMATE

- Synonyms: Potassium bichromate, Potassium pyrochromate
- $K_2Cr_2O_7$
- $M = 294,19 \text{ g/mol}$
- CAS [7778-50-9]
- EINECS-No.: 231-906-6
- Solub. in water: (20 °C): 130 g/l
- Melting point: 398 °C
- Boiling point: > 500 °C

- LD 50 (oral, rat): 25 mg/kg
- EC-Index-No.: 024-002-00-6
- ADR: 6.1 T5 II UN 3288
- IMDG: 6.1 II UN 3288
- IATA/ICAO: 6.1 II UN 3288
- GHS-signal word: Danger
- GHS-H sentences: H272 - H301 - H330 - H334 - H340 - H350 - H360FD - H372 - H314 - H400 - H410 - H312 - H317

- GHS-P sentences: P221 - P303 + P361 + P353 - P305 + P351 + P338 - P320 - P405 - P501a
- Tariff number: 2841 50 00 00
- Applications: oxidizing agent, synthesis of organic products, manufacture of dyes, painting.
- Appearance: Orange solid

**PO0219 Potassium dichromate, EssentQ®**



assay (iodometric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %

calcium (Ca) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,2 %  
 loss on drying (105 °C) . . . . . max. 0,5 %


ART. NO.	VOLUME	CONTAINER
PO02190500	500 g	
PO02191000	1 kg	
PO0219025P	25 kg	

**PO0220 Potassium dichromate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur**



assay (iodometric) . . . . . min. 99,9 %  
 insoluble matter . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 calcium (Ca) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %

lead (Pb) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,02 %  
 loss on drying (105 °C) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
PO02200500	500 g	
PO02201000	1 kg	
PO0220005P	5 kg	
PO0220025P	25 kg	

**PO0235 Potassium dichromate, secondary standard for volumetric titrations, Titrasure®**



assay (on dried sample) . . . . . min. 99,0 %  
 insoluble in water . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %

calcium (Ca) . . . . . max. 0,003 %  
 iron (Fe) . . . . . max. 0,001 %  
 sodium (Na) . . . . . max. 0,02 %  
 loss on drying (105 °C) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
PO02350100	100 g	

## POTASSIUM DICHROMATE, VOLUMETRIC SOLUTIONS

**PO0231 Potassium dichromate, solution 1/6 mol/l (1 N)**



- K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>
- M = 294,19 g/mol
- CAS [7778-50-9]
- EINECS-No.: 231-906-6
- Density: 1,025 g/cm<sup>3</sup>
- LD 50 (oral, rat): 25 mg/kg (toxic component)
- EC-Index-No.: 024-002-00-6
- ADR: 6.1 T4 III UN 3287
- IMDG: 6.1 III UN 3287
- IATA/ICAO: 6.1 III UN 3287
- GHS-signal word: Danger
- GHS-H sentences: H334 - H340 - H350 - H360FD - H373 - H318 - H332 - H315 - H317 - H411
- GHS-P sentences: P260 - P285 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2841 50 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,04903 g K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>  
 This volumetric solution was checked by means of potentiometric methods using a sodium thiosulfate standard solution, that was also checked against Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02311000	1 l	

**PO0232 Potassium dichromate, solution 1/24 mol/l (0,25 N)**



- K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>
- M = 294,19 g/mol
- CAS [7778-50-9]
- EINECS-No.: 231-906-6
- Density: 1,01 g/cm<sup>3</sup>
- LD 50 (oral, rat): 25 mg/kg (toxic component)
- EC-Index-No.: 024-002-00-6
- ADR: 6.1 T4 III UN 3287
- IMDG: 6.1 III UN 3287
- IATA/ICAO: 6.1 III UN 3287
- GHS-signal word: Danger
- GHS-H sentences: H334 - H340 - H350 - H360FD - H373 - H315 - H319 - H317 - H412
- GHS-P sentences: P260 - P285 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2841 50 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, oxidizing agent, synthesis of organic products.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,012258 g K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>  
 This volumetric solution was checked by means of potentiometric methods using a sodium thiosulfate standard solution, that was also checked against Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02321000	1 l	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z


**PO0233 Potassium dichromate, solution 0,04 mol/l, for COD determination** 

- $K_2Cr_2O_7$
- M = 294,19 g/mol
- CAS [7778-50-9]
- EINECS-No.: 231-906-6
- Density: 1,004 g/cm<sup>3</sup>
- LD 50 (oral, rat): 25 mg/kg (toxic component)
- EC-Index-No.: 024-002-00-6
- ADR: 6.1 T4 III UN 3287
- IMDG: 6.1 III UN 3287
- IATA/ICAO: 6.1 III UN 3287
- GHS-signal word: Danger
- GHS-H sentences: H334 - H340 - H350 - H360FD - H373 - H315 - H319 - H317 - H412
- GHS-P sentences: P260 - P285 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2841 50 00 00
- Applications: analytical chemistry (determining COD), oxidizing agent.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,01176 g  $K_2Cr_2O_7$   
This volumetric solution was checked by means of potentiometric methods using a sodium thiosulfate standard solution, that was also checked against Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02331000	1 l	0

**PO0234 Potassium dichromate 0,04 mol/l / mercury(II) sulfate 80 g/l, solution in sulfuric acid, for COD determination, according to ISO 6060** 

- Density: ~ 1,19 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 CT1 II UN 2922
- IMDG: 8 II UN 2922
- IATA/ICAO: 8 II UN 2922
- GHS-signal word: Danger
- GHS-H sentences: H331 - H334 - H340 - H350 - H360FD - H373 - H314 - H302 - H317 - H411
- GHS-P sentences: P260 - P285 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, determining COD.
- Appearance: Orange liquid

titer . . . . . 0,039 - 0,041  
uncertainty . . . . . ± 0,001  
1 ml = 0,01176 g  $K_2Cr_2O_7$   
This volumetric solution was checked by means of volumetric methods using an ammonium iron(II) sulfate standard solution, that was also checked against Scharlau's potassium dichromate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02341000	1 l	0

**PO0230 Potassium dichromate, solution 1/60 mol/l (0,1N)** 

- $K_2Cr_2O_7$
- M = 294,19 g/mol
- CAS [7778-50-9]
- EINECS-No.: 231-906-6
- Density: 1,002 g/cm<sup>3</sup>
- LD 50 (oral, rat): 25 mg/kg (toxic component)
- EC-Index-No.: 024-002-00-6
- ADR: 6.1 T4 III UN 3287
- IMDG: 6.1 III UN 3287
- IATA/ICAO: 6.1 III UN 3287
- GHS-signal word: Danger
- GHS-H sentences: H340 - H350 - H360FD - H412 - EUH208
- GHS-P sentences: P281 - P273 - P201 - P308 + P313 - P405 - P501a
- Tariff number: 2841 50 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, oxidizing agent.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,004903 g  $K_2Cr_2O_7$   
This volumetric solution was checked by means of potentiometric methods using a sodium thiosulfate standard solution, that was also checked against Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02301000	1 l	0

**PO0221 Potassium dichromate, concentrated solution to prepare 1 l of solution 1/60 mol/l (0,1N)** 

- $K_2Cr_2O_7$
- M = 294,19 g/mol
- CAS [7778-50-9]
- EINECS-No.: 231-906-6
- Density: 1,06 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 25 mg/kg (toxic component)
- EC-Index-No.: 024-002-00-6
- ADR: 6.1 T4 III UN 3287
- IMDG: 6.1 III UN 3287
- IATA/ICAO: 6.1 III UN 3287

- GHS-signal word: Danger
- GHS-H sentences: H334 - H340 - H350 - H360FD - H373 - H318 - H332 - H315 - H317 - H411
- GHS-P sentences: P260 - P285 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2841 50 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

amount of substance: 4,9031 g  $K_2Cr_2O_7$   
concentrated solution . . . . . 1/6 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
PO022100PA	u.	0

## POTASSIUM DIHYDROGEN PHOSPHATE

- Synonyms: Potassium biphosphate, Potassium phosphate monobasic, Primary potassium phosphate, Mono-potassium phosphate
- $KH_2PO_4$

- M = 136,09 g/mol
- CAS [7778-77-0]
- EINECS-No.: 231-913-4
- Solub. in water: (20 °C): 222 g/l

- Melting point: ~ 253 °C (decomposes)
- Tariff number: 2835 24 00 00
- Applications: analytical chemistry; in buffer solutions.

## PO0259 Potassium dihydrogen phosphate, extra pure, Phampur®, Ph Eur, BP, NF

assay (acidimetric, on dried sample) . . . . . 98,0 - 100,5 %  
 assay (acidimetric, referred to dried sample) . . . . . 98,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution (10 %, H<sub>2</sub>O) . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,2%  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,2 - 4,5  
 chlorides (Cl) . . . . . max. 200 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 300 ppm  
 arsenic (As) . . . . . max. 2 ppm

lead (Pb) . . . . . max. 5 ppm  
 fluorides (F) . . . . . max. 10 ppm  
 iron (Fe) . . . . . max. 10 ppm  
 reducing substances . . . . . passes test  
 loss on drying (105°C, 4h) . . . . . max. 1,0 %  
 loss on drying (130°C) . . . . . max. 2,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PO02590500	500 g	
PO02591000	1 kg	
PO0259005P	5 kg	
PO0259025P	25 kg	

## PO0260 Potassium dihydrogen phosphate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay (acidimetric, on dried sample) . . . . . min. 99,5 %  
 assay (acidimetric, referred to dried sample) . . . . . 98,0 - 100,5 %  
 assay (acidimetric) . . . . . min. 99,0 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution (10 %, H<sub>2</sub>O) . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,2 - 4,5  
 chlorides (Cl) . . . . . max. 5 ppm

sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 2 ppm  
 heavy metals . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 10 ppm  
 sodium (Na) . . . . . max. 0,005 %  
 reducing substances . . . . . passes test  
 loss on drying (105 °C, 2 h) . . . . . max. 0,2 %  
 loss on drying (110 °C) . . . . . max. 0,2 %  
 loss on drying (130 °C) . . . . . max. 2,0 %

ART. NO.	VOLUME	CONTAINER
PO02600250	250 g	
PO02600500	500 g	
PO02601000	1 kg	
PO0260005P	5 kg	
PO0260025P	25 kg	

## PO0261 Potassium dihydrogen phosphate, HPLC grade

assay (acidimetric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble matter . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,2 - 4,5  
 chlorides (Cl) . . . . . max. 0,0005 %  
 iron (Fe) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm

max. absorbance of an aqueous sol. 10 % in a 1,0 cm cell at wavelength . . . . . absorbance  
 210 nm . . . . . 0,1 AU  
 220 nm . . . . . 0,06 AU  
 230 nm . . . . . 0,04 AU  
 300 nm . . . . . 0,02 AU

ART. NO.	VOLUME	CONTAINER
PO02610250	250 g	

## PO0262 Potassium dihydrogen phosphate, molecular biology grade

assay (acidimetric) . . . . . min. 99,5 %  
 absorbance of an aqueous solution  
 0,1 M in a 1 cm cell at 260 nm . . . . . max. 0,005 AU  
 absorbance of an aqueous solution

0,1 M in a 1 cm cell at 280 nm . . . . . max. 0,005 AU  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
PO02620100	100 g	
PO02621000	1 kg	

# POTASSIUM DISULFITE

- Synonyms: Potassium metabisulfite, Potassium pyrosulfite
- K<sub>2</sub>S<sub>2</sub>O<sub>5</sub>
- M = 222,33 g/mol
- CAS [16731-55-8]
- EINECS-No.: 240-795-3

- Solub. in water: (20 °C): 450 g/l
- Melting point: 190 °C
- LD 50 (oral, rat): 2300 mg/kg
- GHS-signal word: Danger
- GHS-H sentences: H318 - H335 - EUH031

- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P304 + P340 - P405 - P501a
- Tariff number: 2832 20 00 00
- Applications: analytical chemistry, laboratory reagent, inorganic salts, preservative agent (in food industry).

## PO0242 Potassium disulfite, extra pure, Phampur®, Ph Eur, NF



assay (iodometric) . . . . . 95,0 - 101,0 %  
 assay (iodometric, as SO<sub>2</sub>) . . . . . 51,8 - 57,6 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 pH (5 %, H<sub>2</sub>O) . . . . . 3,0 - 4,5  
 thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . passes test  
 iron (Fe) . . . . . max. 10 ppm

selenium (Se) . . . . . max. 10 ppm  
 zinc (Zn) . . . . . max. 25 ppm  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PO02421000	1 kg	

## PO0241 Potassium disulfite, ExpertQ®, for analysis



assay (iodometric) . . . . . min. 96 %  
 insoluble in water . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,0002 %  
 thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . max. 0,05 %  
 arsenic (As) . . . . . max. 1 ppm  
 copper (Cu) . . . . . max. 0,001 %

iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 0,001 %  
 zinc (Zn) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
PO02410500	500 g	
PO02411000	1 kg	
PO0241005P	5 kg	
PO0241025P	25 kg	

## POTASSIUM FLUORIDE

PO0256 Potassium fluoride, EssentQ®, Reag. Ph Eur



- Synonyms: Fluorine potassium
- KF
- M = 58,10 g/mol
- CAS [7789-23-3]
- EINECS-No.: 232-151-5
- Solub. in water: (20 °C): soluble
- Melting point: ~ 855 °C
- Boiling point: 1500 °C
- Vapour pressure: (885 °C) 1,3 hPa
- LD 50 (oral, rat): 245 mg/kg
- EC-Index-No.: 009-005-00-2
- ADR: 6.1 T5 III UN 1812
- IMDG: 6.1 III UN 1812
- IATA/ICAO: 6.1 III UN 1812
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H331
- GHS-P sentences: P261 - P280 - P361 - P321 - P405 - P501a

- Tariff number: 2826 19 90 90
- Applications: synthesis of organic products (fluorides), insecticide.
- Appearance: White solid

assay .....min. 99 %  
 insoluble in water .....max. 0,1 %  
 free acid (as HF) .....max. 0,2 %  
 free alkali (as KOH) .....max. 0,1 %  
 chlorides (Cl) .....max. 0,01 %  
 hexafluorosilicate (SiF<sub>6</sub>) .....max. 0,1 %  
 sulfates (SO<sub>4</sub>) .....max. 0,1 %  
 heavy metals (as Pb) .....max. 0,003 %  
 iron (Fe) .....max. 0,003 %  
 residue on ignition (500 °C, 15 min) .....max. 0,3 %

ART. NO.	VOLUME	CONTAINER
PO02560500	500 g	Ⓟ
PO02561000	1 kg	Ⓟ
PO0256005P	5 kg	Ⓟ
PO0256025P	25 kg	Ⓟ

## POTASSIUM HEXACYANOFERRATE(II) TRIHYDRATE

- Synonyms: Potassium ferrocyanide, Yellow prussiate of potash, Ferrocyanpotassium
- K<sub>4</sub>[Fe(CN)<sub>6</sub>]·3H<sub>2</sub>O
- M = 422,39 g/mol
- CAS [14459-95-1]

- EINECS-No.: 237-722-2
- Solub. in water: (20 °C): 289 g/l
- Melting point: ~ 70 °C (release of crystalline water)
- LD 50 (oral, rat): 3613 mg/kg (anhydrous substance)
- GHS-H sentences: H412

- GHS-P sentences: P273 - P501a
- Tariff number: 2837 20 00 90
- Applications: analytical chemistry, laboratory reagent, in food industry.

PO0247 Potassium hexacyanoferrate(II) trihydrate, EssentQ®

assay (permanganometric) .....min. 99 %  
 insoluble in water .....max. 0,025 %  
 chlorides (Cl) .....max. 0,05 %  
 sulfates (SO<sub>4</sub>) .....max. 0,01 %  
 ferricyanide .....passes test

arsenic (As) .....max. 3 ppm  
 copper (Cu) .....max. 0,0025 %  
 lead (Pb) .....max. 0,001 %  
 zinc (Zn) .....max. 0,0025 %  
 water .....max. 1 %

ART. NO.	VOLUME	CONTAINER
PO02471000	1 kg	Ⓟ
PO0247005P	5 kg	Ⓟ
PO0247025P	25 kg	Ⓟ

PO0248 Potassium hexacyanoferrate(II) trihydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay (permanganometric) .....99 - 102 %  
 insoluble in water .....max. 0,005 %  
 chlorides (Cl) .....max. 0,01 %  
 sulfates (SO<sub>4</sub>) .....max. 0,005 %  
 cadmium (Cd) .....max. 5 ppm  
 copper (Cu) .....max. 0,002 %  
 lead (Pb) .....max. 0,002 %

sodium (Na) .....max. 0,01 %

ART. NO.	VOLUME	CONTAINER
PO02480500	500 g	Ⓟ
PO02481000	1 kg	Ⓟ
PO0248005P	5 kg	Ⓟ
PO0248025P	25 kg	Ⓟ

## POTASSIUM HEXACYANOFERRATE(III)

- Synonyms: Potassium ferricyanide, Ferricyanpotassium, Potassium cyanoferrate(III)
- K<sub>3</sub>[Fe(CN)<sub>6</sub>]
- M = 329,26 g/mol

- CAS [13746-66-2]
- EINECS-No.: 237-323-3
- Solub. in water: (20 °C): 464 g/l
- Tariff number: 2837 20 00 00

- Applications: analytical chemistry, laboratory reagent, painting, photography, manufacture of dyes, oxidizing agent (synthesis of organic products).

PO0240 Potassium hexacyanoferrate(III), EssentQ®

assay (iodometric) .....min. 99 %  
 insoluble in water .....max. 0,025 %  
 chlorides (Cl) .....max. 0,05 %  
 sulfates (SO<sub>4</sub>) .....max. 0,01 %

ART. NO.	VOLUME	CONTAINER
PO02400500	500 g	Ⓟ
PO02401000	1 kg	Ⓟ

ART. NO.	VOLUME	CONTAINER
PO0240005P	5 kg	Ⓟ
PO0240025P	25 kg	Ⓟ

PO0243 Potassium hexacyanoferrate(III), ExpertQ®, for analysis, ACS, ISO

assay (iodometric) . . . . . min. 99,0 %	nickel (Ni) . . . . . max. 0,001 %
insoluble in water . . . . . max. 0,005 %	sodium (Na) . . . . . max. 0,02 %
chlorides (Cl) . . . . . max. 0,01 %	zinc (Zn) . . . . . max. 5 ppm
hexacyanoferrate (II) [Fe(CN) <sub>6</sub> ] <sup>4-</sup> . . . . . max. 0,02 %	
sulfates (SO <sub>4</sub> ) . . . . . max. 0,005 %	
copper (Cu) . . . . . max. 0,005 %	
lead (Pb) . . . . . max. 0,002 %	

ART. NO.	VOLUME	CONTAINER
PO02430500	500 g	
PO02431000	1 kg	
PO0243005P	5 kg	
PO0243025P	25 kg	

## POTASSIUM HEXAHYDROXOANTIMONATE(V)

PO0120 Potassium hexahydroxoantimonate(V), EssentQ®



- Synonyms: Potassium antimonate
- K[Sb(OH)<sub>6</sub>]
- M = 262,90 g/mol
- CAS [12208-13-8]
- EINECS-No.: 235-387-7
- Solub. in water: (20 °C): 20 g/l
- EC-Index-No.: 051-003-00-9
- ADR: 6.1 T5 III UN 1549
- IMDG: 6.1 III UN 1549
- IATA/ICAO: 6.1 III UN 1549
- GHS-signal word: Warning
- GHS-H sentences: H302 - H332 - H411
- GHS-P sentences: P261 - P273 - P264 - P270 - P304 + P340 - P501a
- Tariff number: 2841 90 80 00
- Applications: analytical chemistry, laboratory reagent.
- Appearance: White solid

assay (iodometric, as Sb) . . . . . 44,4 - 49,7 %  
 identity (IR-spectrum) . . . . . passes test  
 loss on drying (110 °C) . . . . . max. 10 %

ART. NO.	VOLUME	CONTAINER
PO01200100	100 g	

## POTASSIUM HYDROGEN CARBONATE

PO0173 Potassium hydrogen carbonate, ExpertQ®, for analysis, Reag. Ph Eur

- Synonyms: Potassium bicarbonate
- KHCO<sub>3</sub>
- M = 100,12 g/mol
- CAS [298-14-6]
- EINECS-No.: 206-059-0
- Solub. in water: (20 °C): 224 g/l
- Melting point: 292 °C
- LD 50 (oral, rat): > 2000 mg/kg
- Tariff number: 2836 40 00 00
- Applications: in food industry, effervescent salt.
- assay (acidimetric) . . . . . min. 99,5 %
- chlorides (Cl) . . . . . max. 0,001 %
- phosphates and silicates (as SiO<sub>2</sub>) . . . . . max. 0,001 %
- sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %
- total nitrogen (as N) . . . . . max. 0,001 %
- aluminium (Al) . . . . . max. 5 ppm
- calcium (Ca) . . . . . max. 5 ppm
- heavy metals (as Pb) . . . . . max. 5 ppm
- iron (Fe) . . . . . max. 5 ppm
- sodium (Na) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
PO01730500	500 g	
PO01731000	1 kg	
PO0173005P	5 kg	
PO0173025P	25 kg	

## DI-POTASSIUM HYDROGEN PHOSPHATE ANHYDROUS

- Synonyms: Dipotassium hydrogen phosphate, Potassium phosphate dibasic
- K<sub>2</sub>HPO<sub>4</sub>
- M = 174,18 g/mol
- CAS [7758-11-4]
- EINECS-No.: 231-834-5
- Solub. in water: (20 °C): soluble
- Tariff number: 2835 24 00 00
- Applications: analytical chemistry, in buffer solutions (phosphates), nutrient media for bacterial culture.

PO0257 di-Potassium hydrogen phosphate anhydrous, extra pure, Phampur®, Ph Eur, BP, USP

- assay (acidimetric, on dried sample) . . . . . 98,0 - 100,5 %
- identification . . . . . passes test
- appearance of solution . . . . . clear and colourless
- pH (5 %, H<sub>2</sub>O) . . . . . 8,5 - 9,6
- insoluble matter . . . . . max. 0,2 %
- chlorides (Cl) . . . . . max. 200 ppm
- carbonate . . . . . passes test
- fluorides (F) . . . . . max. 0,001 %
- sulfates (SO<sub>4</sub>) . . . . . max. 0,1 %
- arsenic (As) . . . . . max. 2 ppm
- iron (Fe) . . . . . max. 10 ppm
- sodium (Na) . . . . . passes test
- potassium dihydrogen phosphate . . . . . max. 2,5 %
- potassium dihydrogen phosphate or tri-potassium phosphate . . . . . passes test
- reducing substances . . . . . passes test
- loss on drying (105 °C) . . . . . max. 1,0 %
- loss on drying (130 °C) . . . . . max. 2,0 %
- Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.
- Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PO02570500	500 g	
PO02571000	1 kg	
PO0257005P	5 kg	
PO0257025P	25 kg	

PO0258 di-Potassium hydrogen phosphate anhydrous, ExpertQ®, for analysis, ACS, Reag. Ph Eur

- assay (acidimetric, on dried sample) . . . . . min. 99,0 %
- identity (IR-spectrum) . . . . . passes test
- insoluble in water . . . . . max. 0,01 %
- pH (5 %, H<sub>2</sub>O) . . . . . 8,5 - 9,6
- chlorides (Cl) . . . . . max. 0,003 %
- sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %
- nitrogen compounds (as N) . . . . . max. 0,001 %
- heavy metals . . . . . max. 5 ppm
- iron (Fe) . . . . . max. 0,001 %
- sodium (Na) . . . . . max. 0,05 %
- loss on drying (105 °C) . . . . . max. 1,0 %

ART. NO.	VOLUME	CONTAINER
PO02580500	500 g	
PO02581000	1 kg	
PO0258005P	5 kg	
PO0258025P	25 kg	



## DI-POTASSIUM HYDROGEN PHOSPHATE TRIHYDRATE

- Synonyms: Secondary potassium phosphate, Potassium phosphate dibasic
- $K_2HPO_4 \cdot 3H_2O$

- M = 228,23 g/mol
- CAS [16788-57-1]
- EINECS-No.: 231-834-5

- Solub. in water: (20 °C): freely soluble
- Tariff number: 2835 24 00 00
- Applications: in buffer solutions (chromatography).

## PO0269 di-Potassium hydrogen phosphate trihydrate, EssentQ®

assay (acidimetric) . . . . . 98 - 102 %  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 8,5 - 9,6  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 nitrogen compounds (as N) . . . . . max. 0,005 %

arsenic (As) . . . . . max. 5 ppm  
 copper (Cu) . . . . . max. 0,003 %  
 iron (Fe) . . . . . max. 0,003 %  
 lead (Pb) . . . . . max. 0,003 %  
 nickel (Ni) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
PO02690500	500 g	
PO02691000	1 kg	
PO0269005P	5 kg	

## PO0271 di-Potassium hydrogen phosphate trihydrate, ExpertQ®, for analysis, Reag. Ph Eur

assay (acidimetric) . . . . . min. 98 %  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 8,5 - 9,6  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 0,5 ppm

copper (Cu) . . . . . max. 0,003 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 0,001 %  
 sodium (Na) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
PO02710500	500 g	
PO02711000	1 kg	
PO0271005P	5 kg	

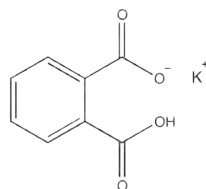
## PO0270 di-Potassium hydrogen phosphate trihydrate, HPLC grade

assay (acidimetric) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble matter . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 9,2 - 9,4

max. absorbance of an aqueous sol. 10% in a 1,0 cm cell at  
 wavelength absorbance  
 230 nm . . . . . 0,1 AU  
 240 nm . . . . . 0,06 AU  
 250 nm . . . . . 0,04 AU  
 310 nm . . . . . 0,02 AU

ART. NO.	VOLUME	CONTAINER
PO02700250	250 g	

## POTASSIUM HYDROGEN PHTHALATE



- Synonyms: Potassium biphthalate, Phthalic acid monopotassium salt, KHP
- $C_8H_5KO_4$
- M = 204,22 g/mol
- CAS [877-24-7]
- EINECS-No.: 212-889-4
- Solub. in water: (20 °C): 80 g/l
- Melting point: 295 - 300 °C

- LD 50 (oral, rat): > 3200 mg/kg
- Tariff number: 2917 39 80 80
- Applications: analytical chemistry, titrant in volumetric analysis (bases), in buffer solutions.

## PO0130 Potassium hydrogen phthalate, ExpertQ®, for analysis, Reag. Ph Eur

assay (acidimetric, on dried sample) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 phthalic acid . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 cadmium (Cd) . . . . . max. 5 ppm  
 cobalt (Co) . . . . . max. 5 ppm

copper (Cu) . . . . . max. 2 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 nickel (Ni) . . . . . max. 5 ppm  
 sodium (Na) . . . . . max. 0,01 %  
 zinc (Zn) . . . . . max. 5 ppm  
 loss on drying (105 °C) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
PO01300500	500 g	
PO01301000	1 kg	
PO0130005P	5 kg	

## PO0131 Potassium hydrogen phthalate, secondary standard for volumetric titrations, Titrasure®

assay (acidimetric, on dried sample) . . . . . 99,95 - 100,05 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 pH (0,05 mol/l, H<sub>2</sub>O, 25 °C) . . . . . 4,00 - 4,02  
 chlorine compounds (as Cl) . . . . . max. 0,003 %

chlorides (Cl) . . . . . max. 0,002 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 sodium (Na) . . . . . max. 0,005 %  
 sulfur compounds (as S) . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
PO01310100	100 g	

## POTASSIUM HYDROGEN SULFATE

PO0272 Potassium hydrogen sulfate, EssentQ®



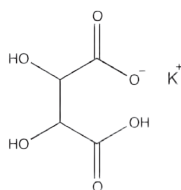
- Synonyms: Potassium bisulfate
- $\text{KHSO}_4$
- $M = 136,17 \text{ g/mol}$
- CAS [7646-93-7]
- EINECS-No.: 231-594-1
- Solub. in water: (20 °C): 490 g/l (exothermic process)
- Melting point: 210 °C (decomposes)
- LD 50 (oral, rat): 2340 mg/kg
- EC-Index-No.: 016-056-00-4
- ADR: 8 C2 II UN 2509
- IMDG: 8 II UN 2509
- IATA/ICAO: 8 II UN 2509
- GHS-signal word: Danger
- GHS-H sentences: H314 - H335
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2833 29 90 00
- Applications: analytical chemistry, laboratory reagent, for determination of: silicon compounds and ores.

assay (acidimetric) . . . . . min. 99 %  
chlorides (Cl) . . . . . max. 0,003 %  
nitrates ( $\text{NO}_3$ ) . . . . . max. 0,005 %  
phosphates (as  $\text{PO}_4$ ) . . . . . max. 0,005 %  
aluminium (Al) . . . . . max. 0,002 %  
calcium (Ca) . . . . . max. 0,01 %  
arsenic (As) . . . . . max. 5 ppm  
copper (Cu) . . . . . max. 0,005 %  
heavy metals (as Pb) . . . . . max. 0,004 %  
iron (Fe) . . . . . max. 0,002 %  
lead (Pb) . . . . . max. 0,005 %  
magnesium (Mg) . . . . . max. 0,01 %  
nickel (Ni) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
PO02720500	500 g	
PO02721000	1 kg	
PO0272005P	5 kg	

## POTASSIUM HYDROGEN TARTRATE

PO0150 Potassium hydrogen tartrate, extra pure, Phampur®, Ph Eur, BP



- Synonyms: Potassium bitartrate, Tartaric acid monopotassium salt
- $\text{C}_4\text{H}_5\text{KO}_6$
- $M = 188,14 \text{ g/mol}$
- CAS [868-14-4]
- EINECS-No.: 212-769-1
- Solub. in water: (20 °C): 5,7 g/l
- Melting point: ~ 250 °C (decomposes)
- Tariff number: 2918 13 00 90
- Applications: in food industry, in galvanotechnia, colouring agent (metals), in pharma industry.

assay (acidimetric, on dried sample) . . . . . 99,5 - 100,5 %  
identification . . . . . passes test  
free acid (as tartaric acid) . . . . . max. 0,2 %  
specific rotation ( $[\alpha]_{20^\circ\text{D}}$ ) . . . . . + 8,0° - + 9,2°  
chlorides (Cl) . . . . . max. 0,05 %  
sulfates ( $\text{SO}_4$ ) . . . . . max. 0,05 %  
oxalic acid ( $\text{C}_2\text{H}_2\text{O}_4$ ) . . . . . max. 0,05 %  
barium (Ba) . . . . . passes test  
heavy metals (as Pb) . . . . . max. 0,001 %  
loss on drying (105 °C) . . . . . max. 0,5 %  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013

ART. NO.	VOLUME	CONTAINER
PO01500500	500 g	
PO01501000	1 kg	
PO0150025P	25 kg	

## POTASSIUM HYDROXIDE

- Synonyms: Potash caustic, Potassium hydrate, Potassium oxide hydrate
- KOH
- $M = 56,11 \text{ g/mol}$
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Solub. in water: (20 °C): soluble
- Melting point: 360 °C

- Boiling point: 1320 °C
- LD 50 (oral, rat): 273 mg/kg
- EC-Index-No.: 019-002-00-8
- ADR: 8 C6 II UN 1813
- IMDG: 8 II UN 1813
- IATA/ICAO: 8 II UN 1813
- GHS-signal word: Danger
- GHS-H sentences: H314 - H302

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 20 10 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, synthesis of organic products, in the pharmaceuticals industry.

PO0263 Potassium hydroxide, 90%, flakes, EssentQ®



assay (acidimetric) . . . . . approx. 90 %  
insoluble in water . . . . . max. 0,05 %  
chlorides (Cl) . . . . . max. 0,02 %  
sulfates ( $\text{SO}_4$ ) . . . . . max. 0,05 %

arsenic (As) . . . . . max. 3 ppm  
iron (Fe) . . . . . max. 0,005 %  
lead (Pb) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
PO02631000	1 kg	
PO0263005P	5 kg	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## PO0266 Potassium hydroxide, pellets, extra pure, Phampur®, Ph Eur, BP, NF



assay (acidimetric) . . . . . 85,0 - 100,5%  
potassium (K) . . . . . min. 59,9%  
appearance of solution . . . . . clear and colourless  
identification . . . . . passes test  
insoluble matter . . . . . passes test  
carbonates (as K<sub>2</sub>CO<sub>3</sub>) . . . . . max. 2,0 %  
chlorides (Cl) . . . . . max. 200 ppm  
phosphates (as PO<sub>4</sub>) . . . . . max. 100 ppm

sulfates (SO<sub>4</sub>) . . . . . max. 200 ppm  
iron (Fe) . . . . . max. 10 ppm  
sodium (Na) . . . . . max. 1,0 %  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.

ART. NO.	VOLUME	CONTAINER
PO02660500	500 g	P
PO02661000	1 kg	P
PO0266005P	5 kg	P
PO0266025P	25 kg	P

## PO0268 Potassium hydroxide, pellets, ExpertQ®, for analysis, ISO, Reag. Ph Eur



aluminium (Al) . . . . . max. 0,002 %  
appearance of solution . . . . . clear and colourless  
assay (acidimetric) . . . . . 85,0 - 100,5%  
calcium (Ca) . . . . . max. 0,002 %  
carbonates (as K<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1,5 %  
chlorides (Cl) . . . . . max. 0,005 %  
identity (IR-spectrum) . . . . . passes test  
iron (Fe) . . . . . max. 0,0010 %  
lead (Pb) . . . . . max. 0,001 %

magnesium (Mg) . . . . . max. 0,0005 %  
nickel (Ni) . . . . . max. 0,001 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
silicates (SiO<sub>2</sub>) . . . . . max. 0,01 %  
sodium (Na) . . . . . max. 0,5 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
total nitrogen (as N) . . . . . max. 0,001 %  
zinc (Zn) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
PO02681000	1 kg	P
PO0268025P	25 kg	P

## PO0275 Potassium hydroxide, pellets, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (acidimetric) . . . . . 85,0 - 100,5%  
identity . . . . . passes test  
appearance of solution . . . . . passes test  
carbonates (as K<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1,0 %  
chlorides (Cl) . . . . . max. 0,0005 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,0005 %  
silicates (SiO<sub>2</sub>) . . . . . max. 0,002 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %  
total nitrogen (as N) . . . . . max. 0,0003 %  
aluminium (Al) . . . . . max. 2 ppm  
cadmium (Cd) . . . . . max. 0,1 ppm

calcium (Ca) . . . . . max. 5 ppm  
copper (Cu) . . . . . max. 1 ppm  
heavy metals . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 5 ppm  
lead (Pb) . . . . . max. 1 ppm  
magnesium (Mg) . . . . . max. 5 ppm  
manganese (Mn) . . . . . max. 0,5 ppm  
nickel (Ni) . . . . . max. 1 ppm  
sodium (Na) . . . . . max. 0,05 %  
zinc (Zn) . . . . . max. 1 ppm

ART. NO.	VOLUME	CONTAINER
PO02750500	500 g	P
PO02751000	1 kg	P
PO0275005P	5 kg	P
PO0275025P	25 kg	P

## POTASSIUM HYDROXIDE, SOLUTION 40% W/V

### PO0273 Potassium hydroxide, solution 40% w/v, EssentQ®



- Synonyms: Caustic potash, Potassium hydrate, Potassium oxide hydrate
- KOH
- M = 56,11 g/mol
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Density: 1,29 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 273 mg/kg (pure substance)
- EC-Index-No.: 019-002-00-8
- ADR: 8 C5 II UN 1814
- IMDG: 8 II UN 1814
- IATA/ICAO: 8 II UN 1814
- GHS-signal word: Danger

- GHS-H sentences: H314 - H302
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 20 90 00
- Applications: laboratory reagent, synthesis of organic products, perfumery.

assay (acidimetric) . . . . . min. 40 %  
carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1 %  
chlorides (Cl) . . . . . max. 0,002 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,002 %  
silicates (SiO<sub>2</sub>) . . . . . max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %  
total nitrogen (as N) . . . . . max. 0,005 %  
aluminium (Al) . . . . . max. 0,001 %  
heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
PO02731000	1 l	P

## POTASSIUM HYDROXIDE, VOLUMETRIC SOLUTIONS

### PO0288 Potassium hydroxide, solution 2 mol/l (2 N)



- KOH
- M = 56,11 g/mol
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Density: ~ 1,09 g/cm<sup>3</sup>
- EC-Index-No.: 019-002-00-8
- ADR: 8 C5 II UN 1814
- IMDG: 8 II UN 1814
- IATA/ICAO: 8 II UN 1814
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 20 90 00

- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,11222 g KOH  
This volumetric solution was checked by means of potentiometric methods using Scharlab's potassium hydrogen phthalate volumetric standard. Scharlab's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).





ART. NO.	VOLUME	CONTAINER
PO02881000	1 l	P

**PO0280 Potassium hydroxide, solution 1 mol/l (1 N)**



- KOH
- M = 56,11 g/mol
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Density: 1,05 g/cm<sup>3</sup>
- LD 50 (oral, rat): 273 mg/kg (pure substance)
- EC-Index-No.: 019-002-00-8
- ADR: 8 C5 II UN 1814
- IMDG: 8 II UN 1814
- IATA/ICAO: 8 II UN 1814
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P533 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 20 90 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,05611 g KOH  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02800500	500 ml	
PO02801000	1 l	
PO0280005P	5 l	
PO0280010C	10 l	




**PO0281 Potassium hydroxide, solution 0,5 mol/l (0,5 N)**



- KOH
- M = 56,11 g/mol
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Density: 1,02 g/cm<sup>3</sup>
- LD 50 (oral, rat): 273 mg/kg (pure substance)
- EC-Index-No.: 019-002-00-8
- ADR: 8 C5 II UN 1814
- IMDG: 8 II UN 1814
- IATA/ICAO: 8 II UN 1814
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P533 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 20 90 00

• Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,02806 g KOH  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02811000	1 l	
PO0281005P	5 l	
PO0281010C	10 l	




**PO0283 Potassium hydroxide, solution 0,23 mol/l (0,23 N), for determination of crude fibre, according to Weende**



- KOH
- M = 56,11 g/mol
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Density: 1,01 g/cm<sup>3</sup>
- LD 50 (oral, rat): 273 mg/kg (pure substance)
- EC-Index-No.: 019-002-00-8
- ADR: 8 C5 III UN 1814
- IMDG: 8 III UN 1814
- IATA/ICAO: 8 III UN 1814
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2815 20 90 00

• Applications: analytical chemistry (for determination of raw fibre, according to Weende).

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,0129053 g KOH  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02831000	1 l	
PO0283005P	5 l	
PO0283010C	10 l	




**PO0282 Potassium hydroxide, solution 0,1 mol/l (0,1 N)**



- KOH
- M = 56,11 g/mol
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Density: 1,01 g/cm<sup>3</sup>
- Boiling point: ~ 100 °C
- LD 50 (oral, rat): 273 mg/kg (pure substance)
- EC-Index-No.: 019-002-00-8
- ADR: 8 C5 III UN 1814
- IMDG: 8 III UN 1814
- IATA/ICAO: 8 III UN 1814
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2815 20 90 00

• Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,005611 g KOH  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02821000	1 l	
PO0282005P	5 l	
PO0282010C	10 l	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**PO0277 Potassium hydroxide, concentrated solution to prepare 1 l of solution 1 mol/l (1 N)** 

- KOH
- M = 56,11 g/mol
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Density: 1,58 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 273 mg/kg (pure substance)
- EC-Index-No.: 019-002-00-8
- ADR: 8 C5 II UN 1814
- IMDG: 8 II UN 1814

- IATA/ICAO: 8 II UN 1814
- GHS-signal word: Danger
- GHS-H sentences: H314 - H302
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 20 90 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

amount of substance: 56,11 g KOH  
concentrated solution . . . . . 5 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
PO027700PA	u.	Ø

**PO0276 Potassium hydroxide, concentrated solution to prepare 1 l of solution 0,1 mol/l (0,1 N)** 

- KOH
- M = 56,11 g/mol
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Density: 1,09 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 273 mg/kg (pure substance)
- EC-Index-No.: 019-002-00-8
- ADR: 8 C5 II UN 1814
- IMDG: 8 II UN 1814

- IATA/ICAO: 8 II UN 1814
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 20 90 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

amount of substance: 5,611 g KOH  
concentrated solution . . . . . 1 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
PO027600PA	u.	Ø

## POTASSIUM HYDROXIDE, VOLUMETRIC SOLUTIONS IN ALCOHOLIC MEDIUM

**PO0289 Potassium hydroxide, solution 0,1 mol/l (0,1 N) in 2-propanol** 

- KOH
- M = 56,11 g/mol
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Density: 0,79 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 12 °C
- Ignition temp.: ~ 425 °C
- LD 50 (oral, rat): 5045 mg/kg (2-propanol)
- ADR: 3 FC II UN 2924
- IMDG: 3 II UN 2924
- IATA/ICAO: 3 II UN 2924
- GHS-signal word: Danger
- GHS-H sentences: H225 - H315 - H319 - H336

- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3814 00 90 99
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,005611 g KOH  
This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02891000	1 l	Ø

**PO0293 Potassium hydroxide, solution 0,05 mol/l (0,05 N) in 2-propanol** 

- KOH
- M = 56,11 g/mol
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Density: 0,79 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 12 °C
- Ignition temp.: ~ 425 °C
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225 - H319 - H336

- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3814 00 90 99
- factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,0028055 g KOH  
This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02931000	1 l	Ø

**PO0294 Potassium hydroxide, solution 0,01 mol/l (0,01 N) in 2-propanol** 

- KOH
- M = 56,11 g/mol
- CAS [1310-58-3]
- EINECS-No.: 215-181-3
- Density: 0,79 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 12 °C
- Ignition temp.: ~ 425 °C
- ADR: 3 F1 II UN 1993
- IMDG: 3 II UN 1993
- IATA/ICAO: 3 II UN 1993
- GHS-signal word: Danger
- GHS-H sentences: H225 - H319 - H336

- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3814 00 90 99
- factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,0005611 g KOH  
This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO02941000	1 l	Ø

## POTASSIUM IODATE

- $KIO_3$
- M = 214,00 g/mol
- CAS [7758-05-6]
- EINECS-No.: 231-831-9
- Solub. in water: (20 °C): soluble
- Melting point: 560 °C
- ADR: 5.1 O2 II UN 1479

- IMDG: 5.1 II UN 1479
- IATA/ICAO: 5.1 II UN 1479
- GHS-signal word: Danger
- GHS-H sentences: H272
- GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a
- Tariff number: 2829 90 80 00

- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis (oxidizing agent), in food industry.
- Appearance: Off-white crystalline powder

### PO0401 Potassium iodate, EssentQ®



assay (iodometric) . . . . . 99,0 - 101,0 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,05 %  
pH (5 %, H<sub>2</sub>O) . . . . . 4,0 - 8,0  
chlorides and bromides (as Cl) . . . . . max. 0,05 %  
iodides (I) . . . . . max. 0,002 %  
nitrogen compounds (as N) . . . . . max. 0,01 %

sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
iron (Fe) . . . . . max. 0,002 %  
loss on drying (130 °C) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
PO04010100	100 g	
PO04010250	250 g	
PO04011000	1 kg	
PO0401025P	25 kg	

### PO0400 Potassium iodate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (iodometric) . . . . . 99,7 - 100,4 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,005 %  
pH (5 %, H<sub>2</sub>O) . . . . . 5,0 - 8,0  
chlorides, chlorates, bromides  
and bromates (as Cl) . . . . . max. 0,01 %  
chlorides and bromides (as Cl) . . . . . max. 0,01 %  
iodides (I) . . . . . max. 0,001 %

sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
nitrogen compounds (as N) . . . . . max. 0,002 %  
arsenic (As) . . . . . max. 2 ppm  
heavy metals . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 0,001 %  
sodium (Na) . . . . . max. 0,005 %  
loss on drying (130 °C) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
PO04000100	100 g	
PO04000250	250 g	
PO04001000	1 kg	

### PO0404 Potassium iodate, secondary standard for volumetric titrations, Titrasure®



assay (on dried sample) . . . . . 99,4 - 100,4 %  
chlorides and bromides (as Cl) . . . . . max. 0,01 %  
iodides (I) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %

total nitrogen (as N) . . . . . max. 0,005 %  
heavy metals (as Pb) . . . . . max. 0,0005 %  
iron (Fe) . . . . . max. 0,001 %  
sodium (Na) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
PO04040100	100 g	

## POTASSIUM IODIDE

- Synonyms: Knollide
- KI
- M = 166,01 g/mol
- CAS [7681-11-0]
- EINECS-No.: 231-659-4

- Solub. in water: (20 °C): soluble
- Melting point: 686 °C
- Boiling point: 1330 °C
- Vapour pressure: (745 °C) 1,3 hPa
- LD 50 (oral, rat): 2779 mg/kg

- Tariff number: 2827 60 00 90
- Applications: analytical chemistry, laboratory reagent, emulsifier (photography).

### PO0411 Potassium iodide, extra pure, Phampur®, Ph Eur, BP, USP

assay (argentometric, referred to dried sample) . . . . . 99,0 - 100,5 %  
identification . . . . . passes test  
appearance of solution . . . . . clear and colourless  
alkalinity . . . . . passes test  
iodates (IO<sub>3</sub>) . . . . . passes test  
sulfates (SO<sub>4</sub>) . . . . . max. 150 ppm  
thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . passes test  
thiosulfates and barium . . . . . passes test

nitrates, nitrites and ammonia . . . . . passes test  
iron (Fe) . . . . . max. 20 ppm  
loss on drying (105 °C, 3 h) . . . . . max. 1,0 %  
loss on drying (105 °C, 4h) . . . . . max. 1,0 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.




ART. NO.	VOLUME	CONTAINER
PO04110250	250 g	
PO04110500	500 g	
PO04111000	1 kg	
PO0411005P	5 kg	



## PO0410 Potassium iodide, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay (argentometric) . . . . . min. 99,5 %  
 assay (argentometric, referred to  
 dried sample) . . . . . 99,0 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 % H<sub>2</sub>O) . . . . . 6,0 - 8,0  
 alkalinity . . . . . passes test  
 chlorides and bromides (as Cl) . . . . . max. 0,01 %  
 iodates (IO<sub>3</sub>) . . . . . max. 3 ppm  
 iodates (IO<sub>3</sub>) and iodine (I) (as IO<sub>3</sub>) . . . . . max. 3 ppm  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
 thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . passes test

total nitrogen (as N) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 0,1 ppm  
 barium (Ba) . . . . . max. 0,002 %  
 calcium (Ca) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 2 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 3 ppm  
 lead (Pb) . . . . . max. 2 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 sodium (Na) . . . . . max. 0,005 %  
 reducing substances . . . . . passes test  
 loss on drying (105 °C, 3 h) . . . . . max. 1,0 %  
 loss on drying (150 °C, 6 h) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
PO04100250	250 g	
PO04100500	500 g	
PO04101000	1 kg	
PO0410005P	5 kg	
PO0410025P	25 kg	

## POTASSIUM IODIDE, SOLUTION 15%

### PO0415 Potassium iodide, solution 15% w/v, EssentQ®

- Synonyms: Knollide
- KI
- M = 166,01 g/mol
- CAS [7681-11-0]
- EINECS-No.: 231-659-4
- Tariff number: 2827 60 00 90
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

assay . . . . . approx. 15 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 3 ppm  
 sodium (Na) . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
PO04151000	1 l	

## POTASSIUM METAPERIODATE

### PO0340 Potassium metaperiodate, ExpertQ®, for analysis, ACS



- Synonyms: Potassium tetroxiodate
- KIO<sub>4</sub>
- M = 230,00 g/mol
- CAS [7790-21-8]
- EINECS-No.: 232-196-0
- Solub. in water: (20 °C): 7 g/l
- Melting point: 581 °C
- ADR: 5.1 O2 II UN 1479
- IMDG: 5.1 II UN 1479
- IATA/ICAO: 5.1 II UN 1479
- GHS-signal word: Danger
- GHS-H sentences: H272
- GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a
- Tariff number: 2829 90 80 00

- Applications: synthesis of organic products, oxidizing agent, for colourimetric determinations (manganese).
- Appearance: White-fine crystalline powder

assay (iodometric, on dried sample) . . . . . 99,8 - 100,3 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (0,5 % H<sub>2</sub>O) . . . . . 5,0 - 5,4  
 other halogens (as Cl) . . . . . max. 0,01 %  
 iodides (I) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %  
 manganese (Mn) . . . . . max. 1 ppm  
 sodium (Na) . . . . . max. 0,03 %  
 loss on drying (110 °C) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
PO03400100	100 g	
PO03400250	250 g	

## POTASSIUM NITRATE

- Synonyms: Nitric acid potassium salt, Saltpeter
- KNO<sub>3</sub>
- M = 101,11 g/mol
- CAS [7757-79-1]
- EINECS-No.: 231-818-8
- Solub. in water: (20 °C): 320 g/l
- Melting point: 334 °C

- LD 50 (oral, rat): 3750 mg/kg
- ADR: 5.1 O2 III UN 1486
- IMDG: 5.1 III UN 1486
- IATA/ICAO: 5.1 III UN 1486
- GHS-signal word: Danger
- GHS-H sentences: H272

- GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a
- Tariff number: 2834 21 00 00
- Applications: analytical chemistry, laboratory reagent, oxidizing agent, in pyrotechnics, manufacture of glass, in food industry.

### PO0279 Potassium nitrate, EssentQ®



assay (acidimetric) . . . . . min. 98,5 %  
 nitrites (NO<sub>2</sub>) . . . . . max. 0,01 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,01 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,02 %  
 heavy metals (as Pb) . . . . . max. 0,002 %

calcium (Ca) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,001 %  
 sodium (Na) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
PO02790500	500 g	
PO02791000	1 kg	
PO0279005P	5 kg	

PO0285 Potassium nitrate, extra pure, Pharmapur®, Ph Eur, BP, USP



assay (acidimetric, referred to dried sample) . . . . . 99,0 - 101,0 %  
 assay (acidimetric) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 acidity or alkalinity . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,0020 %  
 nitrites (NO<sub>2</sub>) . . . . . max. 0,0005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0150 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,0100 %  
 arsenic (As) . . . . . max. 0,0003 %

calcium (Ca) . . . . . max. 0,0100 %  
 iron (Fe) . . . . . max. 0,0010 %  
 lead (Pb) . . . . . max. 0,0010 %  
 sodium (Na) . . . . . max. 0,1 %  
 reducing substances . . . . . passes test  
 loss on drying (105 °C) . . . . . max. 0,5 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.

ART. NO.	VOLUME	CONTAINER
PO02850500	500 g	
PO02851000	1 kg	
PO0285005P	5 kg	
PO0285025P	25 kg	

PO0287 Potassium nitrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (acidimetric, referred to dried sample) . . . . . 99,0 - 101,0 %  
 assay (acidimetric) . . . . . min 99 %  
 appearance of solution . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,005 %  
 acidity or alkalinity . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 5 - 8  
 chlorides (Cl) . . . . . max. 0,001 %  
 iodates (IO<sub>3</sub>) . . . . . max. 0,0005 %  
 nitrites (NO<sub>2</sub>) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,0005 %

sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 0,0001 %  
 heavy metals . . . . . max. 0,0005 %  
 iron (Fe) . . . . . max. 0,0003 %  
 lead (Pb) . . . . . max. 0,0001 %  
 magnesium (Mg) . . . . . max. 0,002 %  
 sodium (Na) . . . . . max. 0,005 %  
 reducing substances . . . . . passes test  
 identity (IR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
PO02870500	500 g	
PO02871000	1 kg	
PO0287005P	5 kg	

## POTASSIUM NITRITE

PO0290 Potassium nitrite, crystallized, ExpertQ®, for analysis, ACS



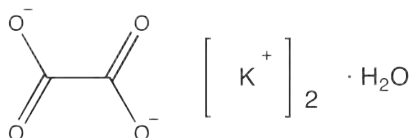
- Synonyms: Nitrous acid potassium salt
- KNO<sub>2</sub>
- M = 85,11 g/mol
- CAS [7758-09-0]
- EINECS-No.: 231-832-4
- Solub. in water: (20 °C): soluble
- Melting point: 440 °C
- EC-Index-No.: 007-011-00-X
- ADR: 5.1 O2 II UN 1488
- IMDG: 5.1 II UN 1488
- IATA/ICAO: 5.1 II UN 1488
- GHS-signal word: Danger
- GHS-H sentences: H272 - H301 - H400

- GHS-P sentences: P221 - P210 - P220 - P321 - P405 - P501a
- Tariff number: 2834 10 00 00
- Applications: analytical chemistry, laboratory reagent, in food industry, preservative agent (E-249), for determination of: aminoacids, cobalt, iodine, urea.

assay (permanganometric) . . . . . min. 96,0 %  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 7,0 - 10,0  
 chlorides (Cl) . . . . . max. 0,01 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 calcium (Ca) . . . . . max. 0,003 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %  
 sodium (Na) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
PO02900250	250 g	
PO02900500	500 g	

## DI-POTASSIUM OXALATE MONOHYDRATE



- Synonyms: Oxalic acid dipotassium salt monohydrate
- K<sub>2</sub>C<sub>2</sub>O<sub>4</sub> · H<sub>2</sub>O
- M = 184,24 g/mol
- CAS [6487-48-5]
- EINECS-No.: 209-506-8
- Solub. in water: (20 °C): 360 g/l
- EC-Index-No.: 607-007-00-3
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811

- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312
- GHS-P sentences: P280 - P264 - P270 - P322 - P363 - P501a
- Tariff number: 2917 11 00 99
- Applications: analytical chemistry, for determination of: manganese.
- Appearance: Colourless solid


PO0309 di-Potassium oxalate monohydrate, EssentQ®



assay (permanganometric) . . . . . min. 99 %  
 insoluble in water . . . . . max. 0,025 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 7 - 8,5  
 chlorides (Cl) . . . . . max. 0,002 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,02 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,005 %





copper (Cu) . . . . . max. 0,003 %  
 heavy metals (as Pb) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,002 %  
 nickel (Ni) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
PO03090500	500 g	
PO03091000	1 kg	
PO0309005P	5 kg	

PO0310 di-Potassium oxalate monohydrate, ExpertQ®, for analysis, ACS 

assay (permanganometric) . . . . . 99,5 - 101 %  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 7 - 8,5  
 acidity . . . . . passes test  
 alkalinity . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %

total nitrogen (as N) . . . . . max. 0,001 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,002 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 sodium (Na) . . . . . max. 0,02 %  
 substances darkened by hot H<sub>2</sub>SO<sub>4</sub> . . . . . passes test




ART. NO.	VOLUME	CONTAINER
PO03100500	500 g	
PO03101000	1 kg	
PO0310005P	5 kg	
PO0310025P	25 kg	

## POTASSIUM PERMANGANATE

- Synonyms: Permanganic acid potassium salt
- KMnO<sub>4</sub>
- M = 158,04 g/mol
- CAS [7722-64-7]
- EINECS-No.: 231-760-3
- Solub. in water: (20 °C): 64 g/l
- Melting point: > 240 °C (decomposes)
- Vapour pressure: (20 °C) < 0,01 hPa





- LD 50 (oral, rat): 1090 mg/kg
- EC-Index-No.: 025-002-00-9
- ADR: 5.1 O2 II UN 1490
- IMDG: 5.1 II UN 1490
- IATA/ICAO: 5.1 II UN 1490
- GHS-signal word: Danger
- GHS-H sentences: H272 - H400 - H410 - H302

- GHS-P sentences: P221 - P210 - P220 - P280 - P273 - P501a
- Tariff number: 2841 61 00 00
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products, bleaching agent, photography, antiseptic.
- Appearance: Dark-brown black crystalline powder

PO0330 Potassium permanganate, extra pure, Pharmapur®, Ph Eur, BP, USP   

assay (iodometric) . . . . . 99,0 - 100,5 %  
 assay (permanganometric, referred to dried sample) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . colourless  
 insoluble in water . . . . . max. 0,2 %  
 chlorides (Cl) . . . . . max. 200 ppm






sulfates (SO<sub>4</sub>) . . . . . max. 500 ppm  
 loss on drying (silica gel) . . . . . max. 0,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PO03300500	500 g	
PO03301000	1 kg	
PO0330005P	5 kg	
PO0330025P	25 kg	

PO0331 Potassium permanganate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur   

assay (permanganometric) . . . . . min. 99,0 %  
 assay (iodometric) . . . . . 99,0 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . colourless  
 insoluble in water . . . . . max. 0,1 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 chlorides and chlorates (as Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %

total nitrogen (as N) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 0,003 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
PO03310250	250 g	
PO03310500	500 g	
PO03311000	1 kg	
PO0331005P	5 kg	
PO0331025P	25 kg	

## POTASSIUM PERMANGANATE, VOLUMETRIC SOLUTIONS

PO0335 Potassium permanganate, solution 0,2 mol/l (1 N) 

- KMnO<sub>4</sub>
- M = 158,04 g/mol
- CAS [7722-64-7]
- EINECS-No.: 231-760-3
- Density: 1,02 g/cm<sup>3</sup>
- EC-Index-No.: 025-002-00-9
- ADR: 9 M6 III UN 3082
- IMDG: 9 III UN 3082
- IATA/ICAO: 9 III UN 3082
- GHS-H sentences: H411
- GHS-P sentences: P273 - P391 - P501a
- Tariff number: 2841 61 00 00

- Applications: analytical chemistry, titrant in volumetric analysis.
- factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,0316 g KMnO<sub>4</sub>  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's disodium oxalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO03351000	1 l	

**PO0336 Potassium permanganate, solution 0,02 mol/l (0,1 N)**

- $\text{KMnO}_4$
- M = 158,04 g/mol
- CAS [7722-64-7]
- EINECS-No.: 231-760-3
- Density: 1,01 g/cm<sup>3</sup>
- EC-Index-No.: 025-002-00-9
- GHS-H sentences: H412
- GHS-P sentences: P273 - P501a
- Tariff number: 2841 61 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm$  0,001  
 1 ml = 0,00316 g  $\text{KMnO}_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's disodium oxalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO03360100	100 ml	0
PO03361000	1 l	0
PO03362500	2,5 l	0

**PO0337 Potassium permanganate, solution 0,013 mol/l (0,065 N)**

- $\text{KMnO}_4$
- M = 158,04 g/mol
- CAS [7722-64-7]
- EINECS-No.: 231-760-3
- Density: 1,01 g/cm<sup>3</sup>
- EC-Index-No.: 025-002-00-9
- GHS-H sentences: H412
- GHS-P sentences: P273 - P501a
- Tariff number: 2841 61 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,995 - 1,005  
 1ml = 0,00205g  $\text{KMnO}_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's disodium oxalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO0337005P	5 l	0

**PO0333 Potassium permanganate, concentrated solution to prepare 1 l of solution 0,02 mol/l (0,1 N)**



- $\text{KMnO}_4$
- M = 158,04 g/mol
- CAS [7722-64-7]
- EINECS-No.: 231-760-3
- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 9 M6 III UN 3082
- IMDG: 9 III UN 3082

- IATA/ICAO: 9 III UN 3082
- GHS-H sentences: H411
- GHS-P sentences: P273 - P391 - P501a
- Tariff number: 2841 61 00 00
- Applications: analytical chemistry, laboratory reagent.

amount of substance: 3,160 g  $\text{KMnO}_4$   
 concentrated solution . . . . . 0,2 mol/l  $\pm$  0,1 %

ART. NO.	VOLUME	CONTAINER
PO033300GA	u.	0

## POTASSIUM PEROXODISULFATE

**PO0350 Potassium peroxodisulfate, EssentQ®, Reag. Ph Eur**



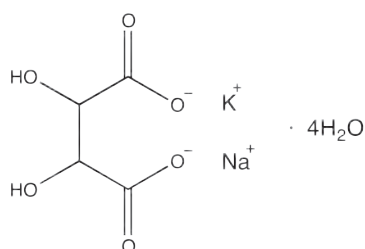
- Synonyms: Potassium persulfate, Peroxydisulfuric acid dipotassium salt
- $\text{K}_2\text{S}_2\text{O}_8$
- M = 270,33 g/mol
- CAS [7727-21-1]
- EINECS-No.: 231-781-8
- Solub. in water: (20 °C): 47 g/l
- Melting point: 100 °C (decomposes)
- LD 50 (oral, rat): 802 mg/kg
- ADR: 5.1 O2 III UN 1492
- IMDG: 5.1 III UN 1492
- IATA/ICAO: 5.1 III UN 1492
- GHS-signal word: Danger
- GHS-H sentences: H334 - H272 - H302 - H335 - H315 - H319 - H317

- GHS-P sentences: P221 - P210 - P285 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2833 40 00 10
- Applications: analytical chemistry, laboratory reagent, cosmetics, photography.
- Appearance: White crystalline powder

assay (iodometric) . . . . . min. 98 %  
 insoluble in water . . . . . max. 0,02 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,005 %  
 manganese (Mn) . . . . . max. 5 ppm  
 nickel (Ni) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
PO03500500	500 g	0
PO03501000	1 kg	0
PO0350005P	5 kg	0

## POTASSIUM SODIUM TARTRATE TETRAHYDRATE



- Synonyms: Sodium potassium tartrate, Tartaric acid potassium sodium salt
- $\text{C}_4\text{H}_4\text{KNaO}_6 \cdot 4\text{H}_2\text{O}$
- M = 282,23 g/mol
- CAS [6381-59-5]
- EINECS-No.: 205-698-2
- Solub. in water: (20 °C): 630 g/l
- Melting point: 70 - 80 °C
- Tariff number: 2918 13 00 00

- Applications: analytical chemistry, laboratory reagent, in food industry, in fertilizer compositions, in the electronic industry.

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## PO0353 Potassium sodium tartrate tetrahydrate, extra pure, Pharmpur®, Ph Eur, BP, USP

assay (titration with  $\text{HClO}_4$ , on dried sample) ..... 99,0 - 101,0 %  
 identification ..... passes test  
 appearance of solution ..... clear and colourless  
 acidity or alkalinity ..... passes test  
 alkalinity ..... passes test  
 specific rotation ( $[\alpha]_{20}^D$ ; c = 5,  $\text{H}_2\text{O}$  on dried sample) ..... + 28,0° - + 30,0°  
 chlorides (Cl) ..... max. 100 ppm

sulfates ( $\text{SO}_4$ ) ..... max. 50 ppm  
 ammonium ( $\text{NH}_4$ ) ..... max. 0,002 %  
 barium and oxalates ..... passes test  
 calcium (Ca) ..... max. 200 ppm  
 water (K.F.) ..... 24,0 - 26,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PO03530500	500 g	P
PO03531000	1 kg	P
PO0353005P	5 kg	P
PO0353025P	25 kg	P

## PO0355 Potassium sodium tartrate tetrahydrate, ExpertQ®, for analysis, ACS, ISO

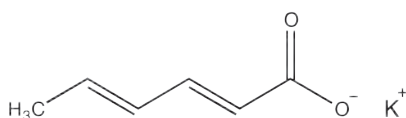
assay (titration with  $\text{HClO}_4$ ) ..... 99,0 - 102,0 %  
 identity (IR-spectrum) ..... passes test  
 insoluble in water ..... max. 0,005 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) ..... 6,5 - 8,5  
 chlorides (Cl) ..... max. 5 ppm  
 phosphates (as  $\text{PO}_4$ ) ..... max. 0,001 %  
 sulfates ( $\text{SO}_4$ ) ..... max. 0,005 %

ammonium ( $\text{NH}_4$ ) ..... max. 0,002 %  
 calcium (Ca) ..... max. 0,004 %  
 copper (Cu) ..... max. 5 ppm  
 heavy metals (as Pb) ..... max. 5 ppm  
 iron (Fe) ..... max. 5 ppm  
 lead (Pb) ..... max. 5 ppm

ART. NO.	VOLUME	CONTAINER
PO03550250	250 g	P
PO03550500	500 g	P
PO03551000	1 kg	P
PO0355005P	5 kg	P

## POTASSIUM SORBATE

### PO0360 Potassium sorbate, extra pure, Pharmpur®, Ph Eur, BP, NF



- Synonyms: Sorbic acid potassium salt
- $\text{C}_6\text{H}_7\text{KO}_2$
- $M = 150,22 \text{ g/mol}$
- CAS [24634-61-5]
- EINECS-No.: 246-376-1
- Solub. in water: (20 °C): soluble
- Melting point: ~ 270 °C (decomposes)
- LD 50 (oral, rat): 3800 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2916 19 95 90
- Applications: in food industry (E202), mold and yeast inhibitor, in pharma industry.

assay (acidimetric, on dried sample) ..... 98 - 101 %  
 identity (IR-spectrum) ..... passes test  
 appearance of solution ..... passes test  
 acidity or alkalinity ..... passes test  
 heavy metals (as Pb) ..... max. 0,001 %  
 aldehydes (as  $\text{CH}_3\text{CHO}$ ) ..... max. 0,15 %  
 loss on drying (105 °C) ..... max. 1 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013

ART. NO.	VOLUME	CONTAINER
PO03600500	500 g	P
PO03601000	1 kg	P
PO0360005P	5 kg	P
PO0360025P	25 kg	P

## POTASSIUM SULFATE

- Synonyms: Sulfuric acid potassium salt
- $\text{K}_2\text{SO}_4$
- $M = 174,27 \text{ g/mol}$
- CAS [7778-80-5]
- EINECS-No.: 231-915-5

- Solub. in water: (20 °C): 110 g/l
- Melting point: 1069 °C
- Boiling point: 1689 °C
- LD 50 (oral, rat): 6600 mg/kg
- Tariff number: 3104 30 00 00

- Applications: analytical chemistry, laboratory reagent, for determination of nitrogen (Kjeldahl), in fertilizer compositions, manufacture of glass.

### PO0363 Potassium sulfate, extra pure, Pharmpur®, Ph Eur, BP

assay (acidimetric, referred to dried sample) ..... 98,5 - 101,0 %  
 identification ..... passes test  
 appearance of solution ..... clear and colourless  
 acidity or alkalinity ..... passes test  
 chlorides (Cl) ..... max. 40 ppm  
 calcium (Ca) ..... max. 200 ppm  
 iron (Fe) ..... max. 10 ppm

magnesium (Mg) ..... max. 20 ppm  
 sodium (Na) ..... max. 0,10 %  
 loss on drying (130 °C) ..... max. 1,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PO03630500	500 g	P
PO03631000	1 kg	P
PO0363005P	5 kg	P
PO0363025P	25 kg	P

### PO0365 Potassium sulfate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay (acidimetric) ..... min. 99,0 %  
 identity (IR-spectrum) ..... passes test  
 insoluble in water ..... max. 0,01 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) ..... 5,5 - 8,0  
 chlorides (Cl) ..... max. 5 ppm  
 total nitrogen (as N) ..... max. 5 ppm  
 arsenic (As) ..... max. 2 ppm

calcium (Ca) ..... max. 0,005 %  
 heavy metals (as Pb) ..... max. 5 ppm  
 iron (Fe) ..... max. 5 ppm  
 magnesium (Mg) ..... max. 0,002 %  
 sodium (Na) ..... max. 0,02 %

ART. NO.	VOLUME	CONTAINER
PO03650250	250 g	P
PO03650500	500 g	P
PO03651000	1 kg	P
PO0365005P	5 kg	P

## POTASSIUM TELLURITE HYDRATE

PO0380 Potassium tellurite hydrate, for bacteriology



- $K_2TeO_3 \cdot xH_2O$
- $M = 253,79$  g/mol
- CAS [123333-66-4]
- EINECS-No.: 232-213-1
- Solub. in water: (20 °C): soluble
- Melting point: 460 - 470 °C (decomposes)
- ADR: 6.1 T5 II UN 3284
- IMDG: 6.1 II UN 3284
- IATA/ICAO: 6.1 II UN 3284
- GHS-signal word: Danger

- GHS-H sentences: H301 - H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P405 - P501a
- Tariff number: 2842 90 10 00
- Applications: for microbiology, for the detection of: bacteria.
- Appearance: Off-white powder

suitability for bacteriology . . . . . passes test

ART. NO.	VOLUME	CONTAINER
PO03800025	25 g	0
PO03800250	250 g	0

## POTASSIUM THIOCYANATE

- Synonyms: Potassium sulfocyanate, Potassium rhodanide, Potassium sulfocyanide
- KSCN
- $M = 97,18$  g/mol
- CAS [333-20-0]
- EINECS-No.: 206-370-1
- Solub. in water: (20 °C): soluble

- Melting point: 175 °C
- Boiling point: 500 °C (decomposes)
- LD 50 (oral, rat): 854 mg/kg
- EC-Index-No.: 615-004-00-3
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H332 - H412 - EUH032

- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 2842 90 80 80
- Applications: in the textile industry, photography, analytical chemistry.

PO0369 Potassium thiocyanate, EssentQ®



assay (argentometric) . . . . . min. 98,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,02 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 5,0 - 8,7  
 chlorides (Cl) . . . . . max. 0,05 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,1 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,01 %

copper (Cu) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
PO03690500	500 g	0
PO03691000	1 kg	0
PO0369005P	5 kg	0
PO0369025P	25 kg	0

PO0370 Potassium thiocyanate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (argentometric) . . . . . min. 99,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,003 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 5,3 - 8,5  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 matter consuming I (as I) . . . . . passes test

sulfides (S) . . . . . max. 0,001 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 2 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 1 ppm  
 lead (Pb) . . . . . max. 2 ppm  
 sodium (Na) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
PO03700500	500 g	0
PO03701000	1 kg	0
PO0370005P	5 kg	0
PO0370025P	25 kg	0

## POTASSIUM THIOCYANATE, SOLUTION 5%

PO0372 Potassium thiocyanate, solution 5% w/v

- Synonyms: Potassium sulfocyanate, Potassium rhodanide
- KSCN
- $M = 97,18$  g/mol
- CAS [333-20-0]
- EINECS-No.: 206-370-1
- Density: 1,022 g/cm<sup>3</sup>

- LD 50 (oral, rat): 854 mg/kg (pure substance)
- EC-Index-No.: 615-004-00-3
- Tariff number: 2842 90 80 80
- Applications: analytical chemistry, for determination of: iron.

assay (argentometric) . . . . . approx. 5%

ART. NO.	VOLUME	CONTAINER
PO03720250	250 ml	0
PO03720500	500 ml	0



## POTASSIUM THIOCYANATE, VOLUMETRIC SOLUTIONS

PO0375 Potassium thiocyanate, solution 0,1 mol/l (0,1 N)

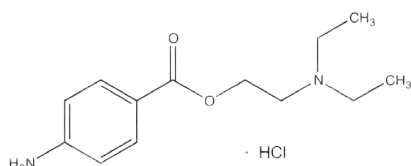
- KSCN
- M = 97,18 g/mol
- CAS [333-20-0]
- EINECS-No.: 206-370-1
- Density: 1,00 g/cm<sup>3</sup>
- LD 50 (oral, rat): 854 mg/kg (pure substance)
- EC-Index-No.: 615-004-00-3
- Tariff number: 2842 90 80 80
- Applications: analytical chemistry, for determination of: iron.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,009718 g KSCN  
This volumetric solution was checked by means of potentiometric methods using a silver nitrate standard solution, that was also checked against Scharlau's potassium chloride volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PO03751000	1 l	

## PROCAINE HYDROCHLORIDE

PR0025 Procaine hydrochloride, extra pure, Phampur®, Ph Eur, BP, USP



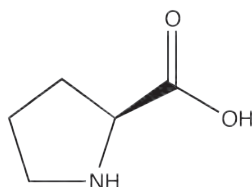
- Synonyms: 2-Diethylamino-4-amino-benzoate hydrochloride
- C<sub>13</sub>H<sub>20</sub>N<sub>2</sub>O<sub>2</sub>·HCl
- M = 272,78 g/mol
- CAS [51-05-8]
- EINECS-No.: 200-077-2
- Solub. in water: (20 °C): soluble
- Melting point: 155 - 157 °C
- LD 50 (oral, rat): 200 mg/kg
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H301
- GHS-P sentences: P264 - P270 - P321 - P330 - P405 - P501a
- Tariff number: 2922 49 95 90
- Applications: in the pharmaceuticals industry, in pharma industry.
- Appearance: Colourless to white crystals

assay (referred to dried sample) . . . . . 99,0 - 101,0 %  
identification . . . . . passes test  
appearance of solution . . . . . clear and colourless  
melting range . . . . . 153 - 158 °C  
pH (2 %, H<sub>2</sub>O) . . . . . 5,0 - 6,5  
related substances . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
loss on drying (over silica gel) . . . . . max. 1,0 %  
loss on drying (105 °C) . . . . . max. 0,5 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PR00250100	100 g	


## L-PROLINE

PR0055 L-Proline, extra pure, Phampur®, Ph Eur, BP, USP

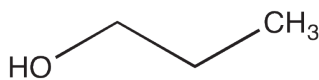


- Synonyms: 2-Pyrrolidine carboxylic acid
- C<sub>5</sub>H<sub>9</sub>NO<sub>2</sub>
- M = 115,13 g/mol
- CAS [147-85-3]
- EINECS-No.: 205-702-2
- Solub. in water: (20 °C): 1500 g/l
- Melting point: 220 - 222 °C
- LD 50 (oral, rat): > 5110 mg/kg
- Tariff number: 2933 99 90 90
- Applications: in biochemistry, chromatography, synthesis of organic products, in pharma industry.

assay (titration with HClO<sub>4</sub>, on dried sample) . . . . . 98,5 - 101,0 %  
identification . . . . . passes test  
appearance of solution . . . . . clear and colourless  
specific rotation ([α]<sub>D</sub><sup>20</sup>, c = 4, H<sub>2</sub>O) . . . . . - 84,3° - - 86,0°  
chlorides (Cl) . . . . . max. 200 ppm  
sulfates (SO<sub>4</sub>) . . . . . max. 300 ppm  
ammonium (NH<sub>4</sub>) . . . . . max. 0,02 %  
iron (Fe) . . . . . max. 10 ppm  
related substances . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
loss on drying (105 °C) . . . . . max. 0,5 %  
loss on drying (105 °C, 3 h) . . . . . max. 0,4 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PR00550010	10 g	
PR00550100	100 g	

**1-PROPANOL**



- Synonyms: n-Propyl alcohol, Ethylcarbinol, 1-Hydroxypropane, n-Propanol
- C<sub>3</sub>H<sub>8</sub>O
- M = 60,10 g/mol
- CAS [71-23-8]
- EINECS-No.: 200-746-9
- Density: 0,80 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -127 °C
- Boiling point: 96,5 - 98 °C
- Flash pt. 15 °C
- Ignition temp.: 405 °C
- Vapour pressure: (20 °C) 19 hPa

- Dielectric const.: (25 °C) 20,1
- LD 50 (oral, rat): 1870 mg/kg
- EC-Index-No.: 603-003-00-0
- ADR: 3 F1 II UN 1274
- IMDG: 3 II UN 1274
- IATA/ICAO: 3 II UN 1274
- GHS-signal word: Danger
- GHS-H sentences: H225 - H318 - H336
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2905 12 00 00
- Applications: analytical chemistry, solvents.

AL0436 1-Propanol, extra pure, Phampur®, Ph Eur



identification .....passes test  
appearance .....passes test  
acidity or alkalinity .....passes test  
reducing substances .....passes test  
related substances .....passes test  
max. absorbance in a 1,0 cm cell at  
230 nm ..... 0,300 AU  
250 nm ..... 0,100 AU  
270 nm ..... 0,030 AU

290 nm ..... 0,020 AU  
310 nm ..... 0,010 AU  
residue on evaporation .....max. 0,001 %  
water (K.F.) .....max. 0,2 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AL04361000	1 l	Ⓜ
AL04362500	2,5 l	Ⓜ
AL0436005P	5 l	Ⓜ
AL0436025A	25 l	Ⓜ

AL0437 1-Propanol, ExpertQ®, for analysis



assay (G.C.) ..... min. 99,5 %  
identity (IR-spectrum) .....passes test  
density (20°/4°) ..... 0,803 - 0,805  
appearance ..... clear  
colour (Hazen) ..... max. 10  
solubility in water .....passes test  
acidity ..... max. 0,0004 meq/g  
alkalinity ..... max. 0,0002 meq/g  
aluminium (Al) ..... max. 0,5 ppm  
barium (Ba) ..... max. 0,1 ppm  
boron (B) ..... max. 0,02 ppm  
cadmium (Cd) ..... max. 0,05 ppm  
calcium (Ca) ..... max. 0,5 ppm  
chromium (Cr) ..... max. 0,02 ppm  
cobalt (Co) ..... max. 0,02 ppm  
copper (Cu) ..... max. 0,02 ppm

iron (Fe) .....max. 0,1 ppm  
lead (Pb) .....max. 0,1 ppm  
magnesium (Mg) .....max. 0,1 ppm  
manganese (Mn) .....max. 0,02 ppm  
nickel (Ni) .....max. 0,02 ppm  
tin (Sn) .....max. 0,1 ppm  
zinc (Zn) .....max. 0,1 ppm  
acetone (G.C.) ..... max. 0,01 %  
ethanol (G.C.) ..... max. 0,01 %  
methanol (G.C.) ..... max. 0,01 %  
2-propanol (G.C.) ..... max. 0,05 %  
aldehydes and ketones (as C<sub>2</sub>H<sub>5</sub>CHO) ..... max. 0,03 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> .....passes test  
residue on evaporation .....max. 0,0005 %  
water (K.F.) .....max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AL04371000	1 l	Ⓜ
AL04372500	2,5 l	Ⓜ
AL0437005P	5 l	Ⓜ

AL0438 1-Propanol, HPLC grade



assay (G.C.) ..... min. 99,9 %  
identity (IR-spectrum) .....passes test  
density (20°/4°) ..... 0,803 - 0,805  
acidity ..... max. 0,0002 meq/g  
alkalinity ..... max. 0,0002 meq/g  
residue on evaporation .....max. 0,0002 %  
water (K.F.) .....max. 0,05 %

min. transmission/max. absorbance in a 1,0 cm cell at wavelength  
220 nm ..... .50 % 0,301 AU  
250 nm ..... .90 % 0,046 AU  
Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
AL04381000	1 l	Ⓜ
AL04382500	2,5 l	Ⓜ

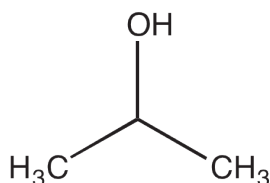
AL0439 1-Propanol, standard substance for GC



assay .....99,8%  
over ramp ... 40°C, 5°C/min 120°C, 30°C/min 200 °C  
identity ..... IR

ART. NO.	VOLUME	CONTAINER
AL04390005	5 ml	Ⓜ

## 2-PROPANOL







- Synonyms: Isopropyl alcohol, Isopropanol, iso-Propanol, Dimethylcarbinol, 2-Hydroxypropane
- $C_3H_8O$
- $M = 60,10 \text{ g/mol}$
- CAS [67-63-0]
- EINECS-No.: 200-661-7
- Density:  $0,78 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $-89,5 \text{ °C}$
- Boiling point:  $82,4 \text{ °C}$
- Flash pt.  $12 \text{ °C}$
- Ignition temp.:  $425 \text{ °C}$
- Vapour pressure: (20 °C)  $43 \text{ hPa}$




- Dielectric const.: (25 °C)  $18,3$
- LD 50 (oral, rat):  $5045 \text{ mg/kg}$
- EC-Index-No.: 603-117-00-0
- ADR: 3 F1 II UN 1219
- IMDG: 3 II UN 1219
- IATA/ICAO: 3 II UN 1219
- GHS-signal word: Danger
- GHS-H sentences: H225 - H319 - H336
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 - P338 - P405 - P501a
- Tariff number: 2905 12 00 00
- Applications: solvents, in antifreeze compositions, cosmetics.

### AL0310 2-Propanol, EssentQ®



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/20°) . . . . . 0,784 - 0,786  
 residue on evaporation . . . . . max. 0,005 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AL03101000	1 l	
AL03102500	2,5 l	
AL0310005P	5 l	
AL0310007E	7 l	







ART. NO.	VOLUME	CONTAINER
AL0310025P	25 l	
AL0310025S	25 l	
AL0310200L	200 l	

### AL0311 2-Propanol, extra pure, Phampur®, Ph Eur, BP, USP



assay (G.C.) . . . . . min. 99,0 %  
 identification . . . . . passes test  
 density (25°/25°) . . . . . 0,783 - 0,787  
 appearance . . . . . clear and colourless  
 refractive index  $n_{20/D}$  . . . . . 1,376 - 1,378  
 acidity or alkalinity . . . . . passes test  
 acidity . . . . . passes test  
 peroxides . . . . . passes test  
 max. absorbance in a 1,0 cm cell at  
 wavelength . . . . . A (AU)  
 230 nm . . . . . 0,30 AU  
 250 nm . . . . . 0,10 AU

270 nm . . . . . 0,03 AU  
 290 nm . . . . . 0,02 AU  
 310 nm . . . . . 0,01 AU  
 benzene and related substances . . . . . passes test  
 volatile impurities . . . . . passes test  
 residue on evaporation . . . . . max. 20 ppm  
 water (K.F.) . . . . . max. 0,5 %  
 Elemental impurities are analysed according to guideline  
 CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline  
 CPMP/ICH/283/95.











ART. NO.	VOLUME	CONTAINER
AL03111000	1 l	
AL03112500	2,5 l	
AL0311005P	5 l	
AL0311025A	25 l	
AL0311025P	25 l	
AL0311200L	200 l	

### AL0312 2-Propanol, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance . . . . . clear  
 density (20°/4°) . . . . . 0,784 - 0,786  
 density (20°/20°) . . . . . 0,785 - 0,789  
 boiling point . . . . . 81- 83 °C  
 colour (Hazen) . . . . . max. 10  
 solubility in water . . . . . passes test  
 acidity . . . . . max. 0,0001 meq/g  
 alkalinity . . . . . max. 0,0001 meq/g  
 chlorides (Cl) . . . . . max. 0,00003 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,00003 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
 aluminium (Al) . . . . . max. 0,5 ppm  
 antimony (Sb) . . . . . max. 0,02 ppm  
 arsenic (As) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 gallium (Ga) . . . . . max. 0,02 ppm

gold (Au) . . . . . max. 0,02 ppm  
 indium (In) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 lithium (Li) . . . . . max. 0,05 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,02 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 acetone (G.C.) . . . . . max. 0,002 %  
 ethanol (G.C.) . . . . . max. 0,01 %  
 isopropylether (G.C.) . . . . . max. 0,01 %  
 methanol (G.C.) . . . . . max. 0,01 %  
 n-propanol (G.C.) . . . . . max. 0,1 %  
 propionaldehyde . . . . . max. 0,002 %  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AL03121000	1 l	
AL03122500	2,5 l	
AL0312005P	5 l	
AL0312007E	7 l	
AL0312010C	10 l	
AL0312025P	25 l	
AL0312025S	25 l	
AL0312025B	25 l	
AL0312030S	30 l	
AL0312200L	200 l	

AL0316 2-Propanol, dried (max. 0,01% H<sub>2</sub>O), ExpertQ®, for analysis, ACS, ISO



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,784 - 0,786  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 solubility in water . . . . . passes test  
 acidity . . . . . max. 0,0001 meq/g  
 alkalinity . . . . . max. 0,0001 meq/g  
 chlorides (Cl) . . . . . max. 0,00003 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,00003 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
 aluminium (Al) . . . . . max. 0,5 ppm  
 antimony (Sb) . . . . . max. 0,02 ppm  
 arsenic (As) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 gallium (Ga) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max. 0,02 ppm

indium (In) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 lithium (Li) . . . . . max. 0,05 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,02 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 acetone (G.C.) . . . . . max. 0,002 %  
 ethanol (G.C.) . . . . . max. 0,01 %  
 isopropylether (G.C.) . . . . . max. 0,01 %  
 methanol (G.C.) . . . . . max. 0,01 %  
 n-propanol (G.C.) . . . . . max. 0,1 %  
 propionaldehyde . . . . . max. 0,002 %  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0005 %  
 water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AL03161000	1 l	0
AL03162500	2,5 l	0
AL0316025A	25 l	0

AL0321 2-Propanol, Multisolvant® HPLC grade ACS ISO UV -VIS



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,784 - 0,786  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 solubility in water . . . . . passes test  
 acidity . . . . . max. 0,0001 meq/g  
 alkalinity . . . . . max. 0,0001 meq/g  
 chlorides (Cl) . . . . . max. 0,00003 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,00003 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
 aluminium (Al) . . . . . max. 0,1 ppm  
 antimony (Sb) . . . . . max. 0,02 ppm  
 arsenic (As) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,01 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,1 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 gallium (Ga) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max. 0,02 ppm  
 indium (In) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,02 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm

molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,02 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,02 ppm  
 zinc (Zn) . . . . . max. 0,01 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 acetone (G.C.) . . . . . max. 0,01 %  
 ethanol (G.C.) . . . . . max. 0,01 %  
 isopropylether (G.C.) . . . . . max. 0,01 %  
 methanol (G.C.) . . . . . max. 0,01 %  
 n-propanol (G.C.) . . . . . max. 0,1 %  
 carbonyl compounds (as CO) . . . . . max. 0,002 %  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0002 %  
 water (K.F.) . . . . . max. 0,05 %  
 liquid chromatography suitability  
 absorbance . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 207 nm . . . . . 10 % 1,000 AU  
 217 nm . . . . . 50 % 0,301 AU  
 232 nm . . . . . 80 % 0,097 AU  
 242 nm . . . . . 90 % 0,046 AU  
 260 nm . . . . . 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
AL03211000	1 l	0
AL03212500	2,5 l	0
AL03214000	4 l	0
AL0321007E	7 l	0
AL0321025S	25 l	0
AL0321030S	30 l	0
AL0321100S	100 l	0
AL0321185E	185 l	0

AL0315 2-Propanol, gradient HPLC grade



assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,784 - 0,786  
 acidity . . . . . max. 0,0001 meq/g  
 alkalinity . . . . . max. 0,0001 meq/g  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,05 %

gradient grade (240 nm)  
 maximum background absorbance: 0,025 AU maxi-  
 mum peak absorbance: 0,002 AU min.  
 transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 210 nm . . . . . 20 % 0,699 AU  
 215 nm . . . . . 50 % 0,301 AU  
 240 nm . . . . . 90 % 0,046 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm  
 Suitable for UPLC

ART. NO.	VOLUME	CONTAINER
AL03151000	1 l	0
AL03152500	2,5 l	0
AL03154000	4 l	0
AL0315007E	7 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## AL0326 2-Propanol, LC-MS



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,784 - 0,786  
acidity . . . . . max. 0,0001 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,1 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
potassium (K) . . . . . max. 0,1 ppm

silver (Ag) . . . . . max. 0,1 ppm  
sodium (Na) . . . . . max. 0,1 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,05 %  
suitability for use in LC-MS . . . . . passes test  
min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A (AU)  
210 nm. . . . . 20 % 0,699 AU  
215 nm. . . . . 50 % 0,301 AU  
240 nm. . . . . 90 % 0,046 AU  
gradient grade (254 nm)  
maximum peak absorbance: max. 0,005 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
AL03261000	1 l	0
AL03262500	2,5 l	0

## AL0319 2-Propanol, for GC residue analysis



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,784 - 0,786  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,05 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 pg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.  
Suitable for highly volatile halogenated hydrocarbons trace analysis. ECD, from dichloromethane to 1,2,4-trichlorobenzene, no peaks are obtained greater than 1 ng/ml as tetrachloromethane.  
Suitable for pesticide and polycyclic aromatic hydrocarbons residue analysis. FID, from 1-octanol to 1-tetradecanol, no peaks are obtained greater than 5 ng/ml as 1-tetradecanol. No peaks are obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
AL03191000	1 l	0
AL03192500	2,5 l	0

## AL0309 2-Propanol, standard substance for GC



assay . . . . . 99,9%  
over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 120°C, 30°C/min

identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
AL03090005	5 ml	0

## AL0317 2-Propanol, 99,8%, anhydrous (max. 0,005% H<sub>2</sub>O)



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,784 - 0,786  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
solubility in water . . . . . passes test  
acidity . . . . . max. 0,0001 meq/g  
alkalinity . . . . . max. 0,0001 meq/g  
chlorides (Cl) . . . . . max. 0,00003 %  
nitrates (NO<sub>3</sub>) . . . . . max. 0,00003 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
aluminium (Al) . . . . . max. 0,5 ppm  
antimony (Sb) . . . . . max. 0,02 ppm  
arsenic (As) . . . . . max. 0,02 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
beryllium (Be) . . . . . max. 0,02 ppm  
bismuth (Bi) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
gallium (Ga) . . . . . max. 0,02 ppm  
gold (Au) . . . . . max. 0,2 ppm  
indium (In) . . . . . max. 0,02 ppm

iron (Fe) . . . . . max. 1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
lithium (Li) . . . . . max. 0,05 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
molybdenum (Mo) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
platinum (Pt) . . . . . max. 0,02 ppm  
silver (Ag) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
thallium (Tl) . . . . . max. 0,02 ppm  
titanium (Ti) . . . . . max. 0,02 ppm  
vanadium (V) . . . . . max. 0,02 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
zirconium (Zr) . . . . . max. 0,02 ppm  
acetone (G.C.) . . . . . max. 0,01 %  
ethanol (G.C.) . . . . . max. 0,01 %  
isopropylether (G.C.) . . . . . max. 0,01 %  
methanol (G.C.) . . . . . max. 0,1 %  
n-propanol (G.C.) . . . . . max. 0,1 %  
propionaldehyde . . . . . max. 0,002 %  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,0003 %  
substances reducing KMnO<sub>4</sub> . . . . . passes test  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
AL03170500	500 ml	0
AL03171000	1 l	0

AL0322 2-Propanol, VLSI grade

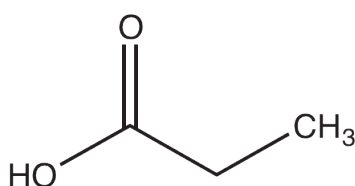


assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,784 - 0,786  
solubility in water . . . . . passes test  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0001 meq/g  
chlorides (Cl) . . . . . max. 0,00002 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
aluminium (Al) . . . . . max. 0,1 ppm  
arsenic and antimony (as As) . . . . . max 0,01 ppm  
boron (B) . . . . . max 0,01 ppm  
calcium (Ca) . . . . . max. 0,1 ppm  
chromium (Cr) . . . . . max. 0,1 ppm  
copper (Cu) . . . . . max. 0,1 ppm

gold (Au) . . . . . max. 0,1 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,1 ppm  
nickel (Ni) . . . . . max. 0,1 ppm  
potassium (K) . . . . . max. 0,1 ppm  
sodium (Na) . . . . . max. 0,1 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
titanium (Ti) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AL03221000	1 l	Ø
AL03222500	2,5 l	Ø

## PROPIONIC ACID



- Synonyms: Methyl acetic acid
- C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>
- M = 74,08 g/mol
- CAS [79-09-4]
- EINECS-No.: 201-176-3
- Density: 0,99 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -22 °C
- Boiling point: 140 - 142 °C
- Flash pt. 49 °C
- Ignition temp.: 485 °C
- Vapour pressure: (20 °C) 2,9 hPa
- Refraction index: (n 20 °C/D) 1,386

- LD 50 (oral, rat): 2600 mg/kg
- EC-Index-No.: 607-089-00-0
- ADR: 8 CF1 II UN 3463
- IMDG: 8 II UN 3463
- IATA/ICAO: 8 II UN 3463
- GHS-signal word: Danger
- GHS-H sentences: H314 - H226
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2915 50 00 00
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products, for the synthesis of: esters, solvents, perfumery.

AC1891 Propionic acid, EssentQ®



assay (acidimetric) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,993 - 0,994  
chlorides (Cl) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 5 ppm  
residue on evaporation . . . . . max. 0,01 %  
heavy metals (as Pb) . . . . . max. 5 ppm

water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC18911000	1 l	Ø
AC18912500	2,5 l	Ø
AC1891005P	5 l	Ø
AC1891025P	25 l	Ø

AC1894 Propionic acid, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (acidimetric) . . . . . min. 99,7 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,993 - 0,994  
density (20°/20°) . . . . . 0,994 - 0,996  
refractive index n<sub>20</sub>/D . . . . . 1,386 - 1,388  
colour (Hazen) . . . . . max. 20  
boiling point . . . . . 140 - 142 °C  
miscibility with water . . . . . passes test

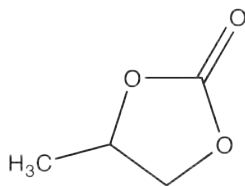
chlorides (Cl) . . . . . max. 0,0005 %  
heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 5 ppm  
carbonyl compounds (as C<sub>2</sub>H<sub>5</sub>CHO) . . . . . max. 0,002 %  
oxidizing substances (as HCOOH) . . . . . max. 0,10 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AC18941000	1 l	Ø
AC18942500	2,5 l	Ø



## PROPYLENE CARBONATE

CA0370 Propylene carbonate, EssentQ®

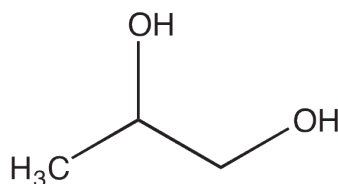


- Synonyms: 4-Methyl-1,3-dioxolan-2-one
- $C_4H_6O_3$
- $M = 102,09$  g/mol
- CAS [108-32-7]
- EINECS-No.: 203-572-1
- Density:  $1,20$  g/cm<sup>3</sup>
- Solub. in water: (20 °C): 240 g/l
- Melting point: -49 °C
- Boiling point: 242 °C
- Flash pt. 116 °C
- Ignition temp.: 510 °C
- Vapour pressure: (20 °C) 0,03 hPa
- Dielectric const.: (25 °C) 6,51
- LD 50 (oral, rat): 34920 mg/kg
- EC-Index-No.: 607-194-00-1
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2920 90 10 90
- Applications: analytical chemistry, solvents, chromatography, for organic trace analysis.

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,204 - 1,205  
 residue on ignition . . . . . max. 0,02 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
CA03701000	1 l	
CA0370025A	25 l	

## 1,2-PROPYLENE GLYCOL







- Synonyms: 1,2-Propanediol, 1,2-Dihydroxypropane
- $C_3H_8O_2$
- $M = 76,10$  g/mol
- CAS [57-55-6]
- EINECS-No.: 200-338-0
- Density:  $1,04$  g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -59 °C
- Boiling point: 188 °C

- Flash pt. 99 °C
- Ignition temp.: 371 °C
- Vapour pressure: (20 °C) 0,11 hPa
- Refraction index: (n 20 °C/D) 1,43
- LD 50 (oral, rat): 19400 - 36000 mg/kg
- Tariff number: 2905 32 00 00
- Applications: in antifreeze compositions, for pharmaceutical use, emulsifier, manufacturing of synthetic resins.

PR0085 1,2-Propylene glycol, extra pure, Pharmapur®, Ph Eur, BP, USP

assay (G.C.) . . . . . min. 99,5 %  
 identification . . . . . passes test  
 appearance . . . . . clear and colourless  
 density (20°/20°) . . . . . 1,035 - 1,040  
 density (25°/25°) . . . . . 1,035 - 1,037  
 refractive index n<sub>20</sub>/D . . . . . 1,431 - 1,433  
 acidity . . . . . passes test  
 chlorides (Cl) . . . . . max. 70 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 60 ppm




oxidizing substances . . . . . passes test  
 reducing substances . . . . . passes test  
 residue on ignition . . . . . max. 0,007 %  
 water (K.F.) . . . . . max. 0,2 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PR00851000	1 l	
PR00852500	2,5 l	
PR0085005P	5 l	
PR0085025P	25 l	

PR0088 1,2-Propylene glycol, ExpertQ®, for analysis, Reag. Ph Eur

assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance . . . . . clear and colourless  
 colour (Hazen) . . . . . max. 10  
 density (20°/20°) . . . . . 1,035 - 1,040  
 refractive index n<sub>20</sub>/D . . . . . 1,431 - 1,433  
 acidity . . . . . passes test

acidity . . . . . max. 0,0005 meq/g  
 chlorides (Cl) . . . . . max. 1 ppm  
 oxidizing substances . . . . . passes test  
 reducing substances . . . . . passes test  
 residue on ignition . . . . . max 0,005 %  
 water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
PR00881000	1 l	
PR00882500	2,5 l	
PR0088025P	25 l	

## PUMICE STONE

PI0010 Pumice stone, granulated

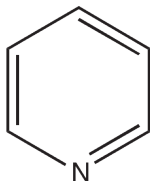
- CAS [1332-09-8]
- Solub. in water: (20 °C): insoluble
- Tariff number: 2513 19 00 00
- Applications: abrasive, in the pharmaceuticals industry (Filter), cosmetics.

Additive regulator of boiling

ART. NO.	VOLUME	CONTAINER
PI00100500	500 g	
PI0010005P	5 kg	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**PYRIDINE**



- C<sub>5</sub>H<sub>5</sub>N
- M = 79,10 g/mol
- CAS [110-86-1]
- EINECS-No.: 203-809-9
- Density: 0,98 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -42 °C
- Boiling point: 115 °C
- Flash pt. 17 °C
- Ignition temp.: 550 °C
- Vapour pressure: (20 °C) 20 hPa
- Refraction index: (n 20 °C/D) 1,5092
- Dielectric const.: (25 °C) 12,3

- LD 50 (oral, rat): 891 mg/kg
- EC-Index-No.: 613-002-00-7
- ADR: 3 F1 II UN 1282
- IMDG: 3 II UN 1282
- IATA/ICAO: 3 II UN 1282
- GHS-signal word: Danger
- GHS-H sentences: H225 - H302 - H312 - H332
- GHS-P sentences: P210 - P241 - P261 - P280 - P303 + P361 + P353 - P501a
- Tariff number: 2933 31 00 00
- Applications: solvents, synthesis of organic products, analytical chemistry.

PI0121 Pyridine, EssentQ®



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,982 - 0,984  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 ammonia (NH<sub>3</sub>) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,2 ppm

iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 2-methylpyridine . . . . . max. 0,2 %  
 piperidine (G.C.) . . . . . max. 0,05 %  
 residue on evaporation . . . . . max. 0,002%  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
PI01211000	1 l	0
PI01212500	2,5 l	0

PI0123 Pyridine, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,982 - 0,984  
 appearance . . . . . clear  
 solubility in water . . . . . passes test  
 colour (Hazen) . . . . . max. 10  
 boiling point . . . . . 114 - 116 °C  
 chlorides (Cl) . . . . . max. 0,0005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 2-picoline (G.C.) . . . . . max. 0,2 %  
 piperidine (G.C.) . . . . . max. 0,01 %  
 ammonia (NH<sub>3</sub>) . . . . . max. 0,002 %  
 reducing substances . . . . . passes test  
 residue on evaporation . . . . . max. 0,002%  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
PI01231000	1 l	0
PI01232500	2,5 l	0

PI0124 Pyridine, dried (max. 0,01% H<sub>2</sub>O), ExpertQ®, for analysis



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,982 - 0,984  
 appearance . . . . . clear  
 solubility in water . . . . . passes test  
 colour (Hazen) . . . . . max. 10  
 chlorides (Cl) . . . . . max. 0,0005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %  
 ammonia (NH<sub>3</sub>) . . . . . max. 0,002 %  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 2-picoline (G.C.) . . . . . max. 0,2 %  
 piperidine (G.C.) . . . . . max. 0,01 %  
 reducing substances . . . . . passes test  
 residue on evaporation . . . . . max. 0,002 %  
 water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
PI01240500	500 ml	0
PI01241000	1 l	0

PI0127 Pyridine, standard substance for GC



assay . . . . . 99,9%  
 over ramp . . . . . 60°C, 6°C/min 160°C, 20°C/min 220°C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
PI01270005	5 ml	0

## PI0125 Pyridine, 99,5%, anhydrous (max. 0,005% H<sub>2</sub>O)



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,982 - 0,984  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 solubility in water . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,0005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm

copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 2-picoline (G.C.) . . . . . max. 0,2 %  
 piperidine (G.C.) . . . . . max. 0,01 %  
 ammonia (NH<sub>3</sub>) . . . . . max. 0,002 %  
 reducing substances . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
PI01250500	500 ml	
PI01251000	1 l	

## PI0126 Pyridine, 99,5%, anhydrous (max. 0,005% H<sub>2</sub>O), with molecular sieves



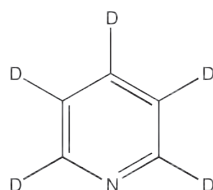
assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,982 - 0,984  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 ammonia (NH<sub>3</sub>) . . . . . max. 0,005 %

copper (Cu) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 piperidine (G.C.) . . . . . max. 0,05 %  
 water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
PI01261000	1 l	

## PYRIDINE-D5

### PI0132 Pyridine-d5, deuteration degree min. 99,95%, NMR spectroscopy grade, Spectrosol®



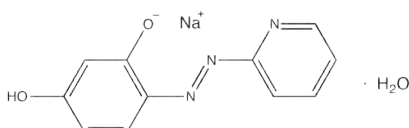
- C<sub>5</sub>D<sub>5</sub>N
- M = 84,13 g/mol
- CAS [7291-22-7]
- EINECS-No.: 230-720-2
- Density: 1,05 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -41 °C
- Boiling point: 114 °C
- Flash pt. 17 °C
- Ignition temp.: ~ 480 °C
- Vapour pressure: (20 °C) 20 hPa
- LD 50 (oral, rat): 891 mg/kg (pyridine)
- ADR: 3 F1 II UN 1282
- IMDG: 3 II UN 1282
- IATA/ICAO: 3 II UN 1282
- GHS-signal word: Danger
- GHS-H sentences: H225 - H302 - H312 - H332
- GHS-P sentences: P210 - P241 - P261 - P280 - P303 + P361 + P353 - P501a
- Tariff number: 2845 90 10 00
- Applications: for nuclear magnetic resonance spectroscopy.

deuteration degree . . . . . min. 99,95 %  
 water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) . . . . . max. 0,02 %  
 performance test (NMR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
PI01320010	10 ml	

## 4-(2-PYRIDYLAZO)-RESORCINOL, MONOSODIUM SALT MONOHYDRATE

### PI0100 4-(2-Pyridylazo)-resorcinol, monosodium salt monohydrate, ExpertQ®, for analysis, Reag. Ph Eur



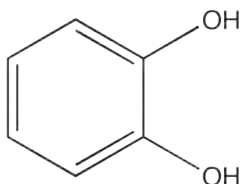
- Synonyms: PAR
- C<sub>11</sub>H<sub>8</sub>N<sub>3</sub>NaO<sub>2</sub>·H<sub>2</sub>O
- M = 255,21 g/mol
- CAS [16593-81-0]
- EINECS-No.: 236-339-8
- Solub. in water: (20 °C): 38 g/l
- Tariff number: 2933 39 99 90
- Applications: analytical chemistry, indicator.

assay (titr. with HClO<sub>4</sub>, referred on dried sample) . . . . . min. 99 %  
 appearance of solution . . . . . passes test  
 water (K.F.) . . . . . 7,0 - 9,0 %  
 suitability as indicator for metal titration . . . . . passes test

ART. NO.	VOLUME	CONTAINER
PI01000001	1 g	
PI01000005	5 g	

## PYROCATECHOL

PI0150 Pyrocatechol, EssentQ®



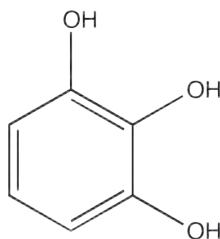
- Synonyms: 1,2-Dihydroxybenzene, Catechol
- $C_6H_6O_2$
- $M = 110,11$  g/mol
- CAS [120-80-9]
- EINECS-No.: 204-427-5
- Solub. in water: (20 °C): 450 g/l
- Melting point: 103 - 105 °C
- Boiling point: 245 °C (decomposes)
- Flash pt. 127 °C
- Vapour pressure: (118 °C) 13 hPa
- LD 50 (oral, rat): 358 mg/kg
- EC-Index-No.: 604-016-00-4
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P322 - P362 - P501a
- Tariff number: 2907 29 00 90
- Applications: synthesis of organic products, laboratory reagent, photography, manufacture of dyes, antiseptic.

assay (G.C.) .....min. 99 %  
identity (IR-spectrum) .....passes test

ART. NO.	VOLUME	CONTAINER
PI01500250	250 g	☐
PI01501000	1 kg	☐

## PYROGALLOL

AC1850 Pyrogallol, EssentQ®



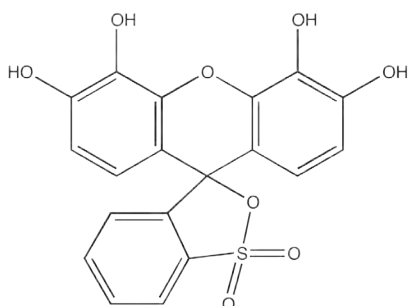
- Synonyms: 1,2,3-Trihydroxybenzene, Pyrogallic acid
- $C_6H_6O_3$
- $M = 126,11$  g/mol
- CAS [87-66-1]
- EINECS-No.: 201-762-9
- Solub. in water: (20 °C): 400 g/l
- Melting point: 131 - 134 °C
- Boiling point: 309 °C
- Vapour pressure: (140 °C) 2 - 4 hPa
- LD 50 (oral, rat): 789 mg/kg
- EC-Index-No.: 604-009-00-6
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Warning
- GHS-H sentences: H341 - H302 - H312 - H332 - H412
- GHS-P sentences: P261 - P280 - P281 - P322 - P405 - P501a
- Tariff number: 2907 29 00 80
- Applications: synthesis of organic products, analytical chemistry, laboratory reagent (antimony and bismuth), photography, solvents (metals), manufacture of dyes.

assay (G.C.) .....min. 99 %  
identity (IR-spectrum) .....passes test  
pH (5 %,  $H_2O$ ) ..... 4 - 5  
residue on ignition .....max. 0,02 %

ART. NO.	VOLUME	CONTAINER
AC18500100	100 g	☐
AC18500250	250 g	☐

## PYROGALLOL RED

RO0165 Pyrogallol red, indicator for metal titration



- Synonyms: Pyrogallolsulfonphthalein, Pyrogallic acid
- $C_{20}H_{12}O_9S$
- $M = 400,36$  g/mol
- CAS [32638-88-3]
- EINECS-No.: 251-134-3
- Solub. in water: (20 °C): soluble
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, indicator (metals).

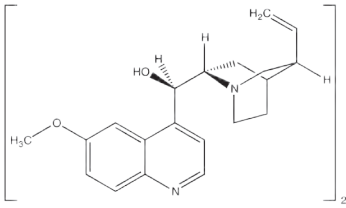
suitability as indicator for metal  
titration .....passes test  
loss on drying (110 °C) ..... max. 5 %

ART. NO.	VOLUME	CONTAINER
RO01650001	1 g	☐
RO01650100	100 g	☐

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**QUININE SULFATE DIHYDRATE**

QU0095 Quinine sulfate dihydrate, extra pure, Pharmpur®, Ph Eur, BP, USP



- Synonyms: Quinamm, Quine, Quinate, Quinsam
- $(C_{20}H_{24}N_2O_2)_2 \cdot H_2SO_4 \cdot 2H_2O$
- M = 782,94 g/mol
- CAS [6119-70-6]
- EINECS-No.: 212-359-2
- Solub. in water: (20 °C): ~ 1,2 g/l
- Melting point: 233 - 235 °C
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H332
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 2939 21 00 00
- Applications: in the pharmaceuticals industry, bactericide, antiseptic, in food industry, in pharma industry.

assay (titration with  $HClO_4$ , on dried sample) . . . . . 99,0 - 101,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 pH (1 %,  $H_2O$ ) . . . . . 5,7 - 6,6  
 specific rotation ( $[\alpha]_{25}^D$ , c = 2, HCl 0,1 M) . . . . . - 235° - - 245°  
 specific rotation ( $[\alpha]_{20}^D$ , c = 2, HCl 0,1 M, on dried sample) . . . . . - 237° - - 245°  
 chloroform-alcohol-insoluble substances . . . . . max. 0,1 %  
 limit of dihydroquinine sulfate . . . . . max. 10,0 %  
 organic impurities . . . . . passes test  
 other cinchona alkaloids . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (105°C) . . . . . 4,0 - 5,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

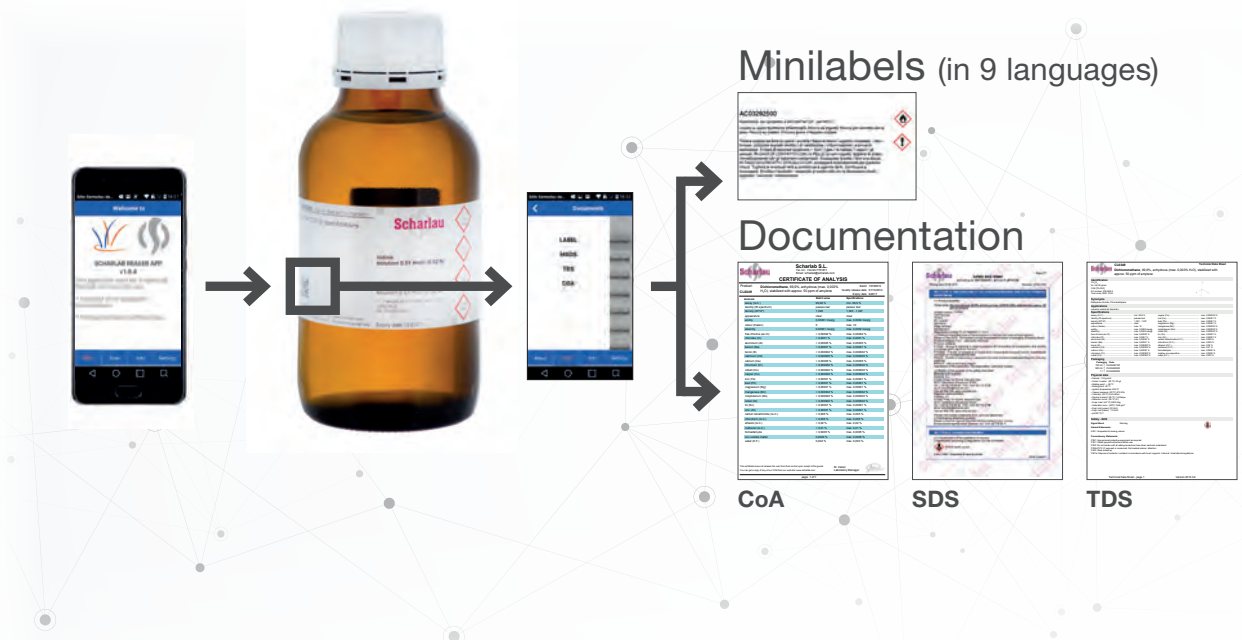
ART. NO.	VOLUME	CONTAINER
QU00950025	25 g	0

# Scharlab Reader App QR



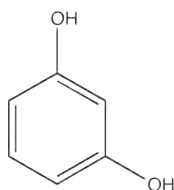
Scharlab Reader App lets you obtain technical documents and mini safety labels by simply scanning the QR code on your Scharlau bottle.

Instantly, any time (24/7), users can download mini safety labels, Certificates of Analysis (CoA), Technical Data Sheets (TDS) and Safety Data Sheets (SDS) for their products.



A  
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Z

## RESORCINOL



- Synonyms: 1,3-Dihydroxybenzene
- $C_6H_6O_2$
- $M = 110,11 \text{ g/mol}$
- CAS [108-46-3]
- EINECS-No.: 203-585-2
- Solub. in water: (20 °C): soluble
- Melting point: 109 - 111 °C
- Boiling point: (20 hPa) 177 °C
- Flash pt. 127 °C
- Ignition temp.: 605 °C
- Vapour pressure: (20 °C) 0,1 hPa
- LD 50 (oral, rat): 301 mg/kg
- EC-Index-No.: 604-010-00-1

- ADR: 6.1 T2 III UN 2876
- IMDG: 6.1 III UN 2876
- IATA/ICAO: 6.1 III UN 2876
- GHS-signal word: Warning
- GHS-H sentences: H400 - H302 - H315 - H319
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 2907 21 00 10
- Applications: analytical chemistry, laboratory reagent (zinc), synthesis of organic products, cosmetics, manufacture of adhesives, manufacture of dyes, in the textile industry.
- Appearance: White-light beige flakes

RE0080 Resorcinol, extra pure, Pharpur®, Ph Eur, BP



assay (bromometric, referred to dried sample) ..... 98,5 - 101,0 %  
 identification ..... passes test  
 appearance of solution ..... passes test  
 acidity or alkalinity ..... passes test  
 pyrocatechol ..... passes test  
 related substances ..... passes test

residue on ignition ..... max. 0,1 %  
 loss on drying (over silica gel) ..... max. 1,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
RE00800250	250 g	☐

RE0083 Resorcinol, ExpertQ®, Reag. Ph Eur



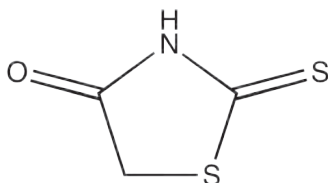
assay (bromometric, referred to dried sample) ..... 98,5 - 101,0 %  
 identity (IR-spectrum) ..... passes test  
 appearance of solution ..... passes test  
 acidity or alkalinity ..... passes test  
 chlorides (Cl) ..... max. 0,001%

sulfates (SO<sub>4</sub>) ..... max. 0,005 %  
 pyrocatechol ..... passes test  
 related substances ..... passes test  
 residue on ignition ..... max. 0,1 %  
 loss on drying (over silica gel) ..... max. 1,0 %

ART. NO.	VOLUME	CONTAINER
RE00830100	100 g	☐
RE00830250	250 g	☐

## RHODANINE

RO0030 Rhodanine, EssentQ®



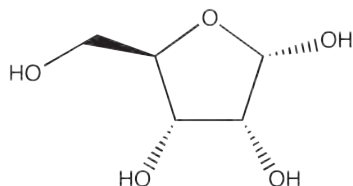
- Synonyms: 2-Thioxo-4-thiazolidinone, Rhodanic acid
- $C_5H_4NOS_2$
- $M = 133,19 \text{ g/mol}$
- CAS [141-84-4]
- EINECS-No.: 205-505-1
- Solub. in water: (20 °C): soluble
- Melting point: 166 - 168 °C
- LD 50 (oral, rat): 326 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2934 10 00 90
- Applications: synthesis of organic products, laboratory reagent.

assay ..... min. 98 %  
 identity (IR-spectrum) ..... passes test

ART. NO.	VOLUME	CONTAINER
RO00300025	25 g	☐

## D(-)-RIBOSE

RI0025 D(-)-Ribose, EssentQ®



- Synonyms:  $\alpha$ -D-Ribofuranose
- $C_5H_{10}O_5$
- $M = 150,13 \text{ g/mol}$
- CAS [50-69-1]
- EINECS-No.: 200-059-4
- Solub. in water: (20 °C): soluble
- Melting point: ~ 90 - 95 °C
- Tariff number: 2940 00 00 80
- Applications: analytical chemistry, in biochemistry, in food industry, synthesis of organic products, nutrient media for bacterial culture.

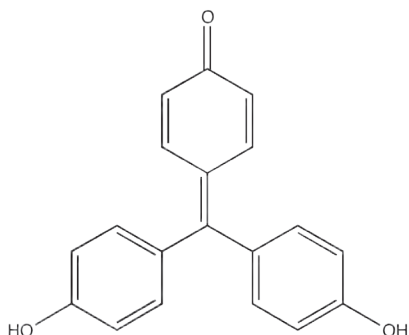
identity (IR-spectrum) ..... passes test  
 specific rotation ( $[\alpha]_{20}^D$ ,  $c = 2, \text{H}_2\text{O}$ ) ..... - 22,0° - - 18°  
 heavy metals (as Pb) ..... max. 0,001 %  
 related substances (TLC) ..... passes test  
 water (K.F.) ..... max. 0,5 %

ART. NO.	VOLUME	CONTAINER
RI00250025	25 g	☐



## ROSOLIC ACID, C.I. 43800

AC1990 Rosolic acid, C.I. 43800, indicator, for microscopy



- Synonyms: Aurin, 4-[Bis(4-hydroxyphenyl)-methylene]2,5-cyclohexadien-1-one
- $C_{19}H_{14}O_3$
- $M = 290,32 \text{ g/mol}$
- CAS [603-45-2]
- EINECS-No.: 210-041-8
- Solub. in water: (20 °C): 1,2 g/l
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3212 90 90 00
- Applications: microscopy, manufacture of dyes.

pH range (yellow-red) ..... 6,8 - 8,0  
 Absorption maximum  $\lambda$  (in ethanol + 2 ml HCl 1N) ..... 482 - 486 nm  
 Absorptivity (A1%/1 cm;  $\lambda$  max.) ..... > 1250  
 insoluble in  $C_2H_5OH$  ..... passes test  
 copper (Cu) ..... max. 0,005 %  
 iron (Fe) ..... max. 0,005 %  
 lead (Pb) ..... max. 0,005 %  
 nickel (Ni) ..... max. 0,005 %  
 residue on ignition (as  $SO_2$ ) ..... max. 0,5 %  
 loss on drying (110°C, 1h) ..... max. 10 %

ART. NO.	VOLUME	CONTAINER
AC19900100	100 g	0
AC19900010	10 g	0
AC19900025	25 g	0

# Aquagent®

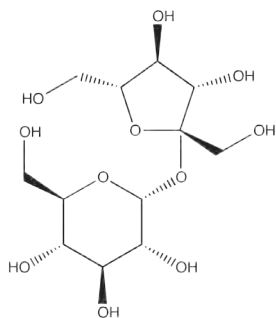


The Scharlau comprehensive pyridine-free solutions range for a reliable Karl Fischer Titration

- Highest quality results
- Increased safety
- Time saving
- Flexibility: many applications and wide range of capacities
- Globally available: international sales network
- 30 years experience



## D(+)-SACCHAROSE



- Synonyms: Cane sugar, Sucrose
- $C_{12}H_{22}O_{11}$
- $M = 342,30 \text{ g/mol}$
- CAS [57-50-1]
- EINECS-No.: 200-334-9
- Solub. in water: (20 °C): freely soluble
- Melting point: 169 - 170 °C
- LD 50 (oral, rat): 29700 mg/kg
- Tariff number: 1701 99 10 80
- Applications: analytical chemistry, for determination of proteins, in food industry, for pharmaceutical use, synthesis of organic products, in biochemistry, nutrient media for bacterial culture.

### SA0020 D(+)-Saccharose, extra pure, Pharmapur®, Ph Eur, BP, NF

identification .....passes test  
appearance of solution .....passes test  
colour value .....max. 45  
conductivity (20°C) .....max.  $35 \mu\text{S}\cdot\text{cm}^{-1}$   
specific rotation ( $[\alpha]_{20}^{20}$ ; D;  
 $c=260, \text{H}_2\text{O}$ ) .....  $+66,3^\circ - +67,0^\circ$   
sulfite .....passes test

sulfites (as  $\text{SO}_2$ ) .....max. 10 ppm  
reducing sugars .....passes test  
loss on drying (105°C, 3 h) .....max. 0,1 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SA00200500	500 g	
SA00201000	1 kg	
SA0020005P	5 kg	
SA0020025P	25 kg	

### SA0021 D(+)-Saccharose, ExpertQ®, for analysis, Reag. Ph Eur

identity (IR-spectrum) .....passes test  
appearance of solution .....clear  
conductivity (20°C) .....max.  $35 \mu\text{S}\cdot\text{cm}^{-1}$   
specific rotation ( $[\alpha]_{20}^{20}$ ; D;  
 $c=260, \text{H}_2\text{O}$ ) .....  $+66,3^\circ - +67,0^\circ$   
colour value .....max. 45  
reducing sugars .....passes test

sulfites (as  $\text{SO}_2$ ) .....max. 10 ppm  
loss on drying (105°C, 3 h) .....max. 0,1 %

ART. NO.	VOLUME	CONTAINER
SA00210500	500 g	
SA00211000	1 kg	
SA0021005P	5 kg	
SA0021025P	25 kg	

### SU0030 D(+)-Saccharose (sucrose), molecular biology grade

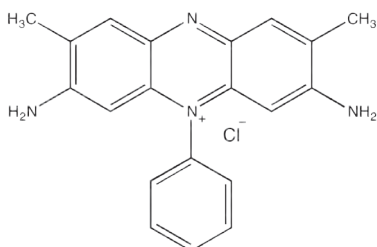
identity (IR-spectrum) .....passes test  
specific rotation ( $[\alpha]_{20}^{20}$ ; D;  
 $c = 26, \text{H}_2\text{O}$ ) .....  $+66,2^\circ - +66,8^\circ$   
absorbance of an aqueous solution  
(50 %) in a 1 cm cell at 260 nm .....max. 0,20 AU

absorbance of an aqueous solution  
(50 %) in a 1 cm cell at 280 nm .....max. 0,15 AU  
heavy metals (as Pb) .....max 0,001 %  
reducing sugars .....max. 0,5 %  
TLC test .....passes test  
residue on ignition .....max. 0,02 %  
DNases, RNases, Proteases .....non detected

ART. NO.	VOLUME	CONTAINER
SU00301000	1 kg	
SU0030005P	5 kg	

## SAFRANINE O, C.I. 50240

### SA0040 Safranin O, C.I. 50240, for microscopy



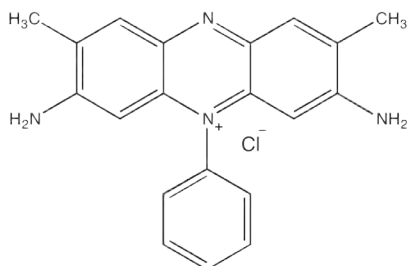
- $C_{20}H_{19}ClN_4$
- $M = 350,88 \text{ g/mol}$
- CAS [477-73-6]
- EINECS-No.: 207-518-8
- Solub. in water: (20 °C): 50 g/l
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 3204 13 00 90
- Applications: microscopy, manufacture of dyes.

Absorption maximum  $\lambda$   
(in ethanol 50 %) .....530 - 534 nm  
Absorptivity ( $A_{1\%}^{1 \text{ cm}}$ ;  $\lambda$  max.) .....875 - 1450  
loss on drying (110 °C) .....max. 15 %

ART. NO.	VOLUME	CONTAINER
SA00400010	10 g	
SA00400050	50 g	

## SAFRANINE O, SOLUTION ACCORDING TO GRAM

SA0042 Safranin O, solution according to Gram



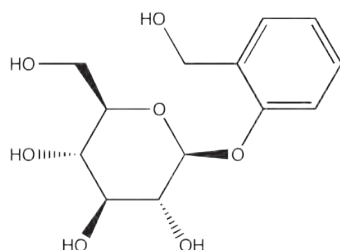
- $C_{20}H_{19}ClN_3$
- $M = 350,88$  g/mol
- CAS [477-73-6]
- EINECS-No.: 207-518-8
- Density: 0,99 g/cm<sup>3</sup>
- Solub. in water: (20 °C): soluble
- Flash pt. 49 °C
- GHS-signal word: Warning
- GHS-H sentences: H226
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501
- Tariff number: 3204 13 00 90
- Applications: microscopy, bacterium staining.

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
SA0042G100	100 ml	Ⓜ
SA00420500	500 ml	Ⓜ
SA00421000	1 l	Ⓜ
SA00422500	2,5 l	Ⓜ

## D-SALICIN

SA0200 D-Salicin, for biochemistry



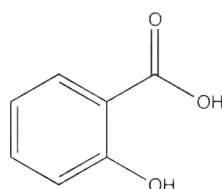
- Synonyms: 2-(Hydroxymethyl)phenyl-β-D-glucopyranoside
- $C_{18}H_{26}O_7$
- $M = 286,28$  g/mol
- CAS [138-52-3]
- EINECS-No.: 205-331-6
- Solub. in water: (15 °C): 36 g/l
- Melting point: 199 - 201 °C
- Tariff number: 2938 90 90 90
- Applications: in biochemistry, for microbiology, for pharmaceutical use.

assay (HPLC) . . . . . min. 98 %  
specific rotation ( $[\alpha]_{20}^{D}$ ,  
 $c = 2, H_2O$ ) . . . . . -59° - - 64,5°  
heavy metals (as Pb) . . . . . max. 0,001 %  
residue on ignition . . . . . max. 0,1 %  
loss on drying (110 °C) . . . . . max. 2 %  
suitability as enzymatic substrate . . . . . passes test

ART. NO.	VOLUME	CONTAINER
SA02000025	25 g	Ⓜ

## SALICYLIC ACID

AC2002 Salicylic acid, extra pure, Pharmpur®, Ph Eur, BP, USP



- Synonyms: 2-Hydroxybenzoic acid
- $C_7H_6O_3$
- $M = 138,12$  g/mol
- CAS [69-72-7]
- EINECS-No.: 200-712-3
- Solub. in water: (20 °C): 2 g/l
- Melting point: 158-161 °C
- Boiling point: 211 °C
- Flash pt. 157 °C
- Ignition temp.: 500 °C
- Vapour pressure: (100 °C) < 1hPa
- LD 50 (oral, rat): 891 mg/kg
- GHS-signal word: Danger
- GHS-H sentences: H318 - H302 - H335 - H315
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2918 21 00 00
- Applications: synthesis of organic products, manufacture of dyes, analytical chemistry, in pharma industry.

assay (acidimetric, referred to dried sample) . . . . . 99,5 - 100,5 %  
assay (HPLC, referred to dried sample) . . . . . 98,0 - 102,0 %  
identification . . . . . passes test  
appearance of solution . . . . . clear and colourless  
chlorides (Cl) . . . . . max. 100 ppm  
sulfates (SO<sub>4</sub>) . . . . . max. 200 ppm  
related substances . . . . . passes test  
residue on ignition . . . . . max. 0,05 %  
loss on drying (over silica gel) . . . . . max. 0,5 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC20020500	500 g	Ⓜ
AC20021000	1 kg	Ⓜ

## SEA SAND

- CAS [14808-60-7]
- EINECS-No.: 238-878-4
- Solub. in water: (20 °C): insoluble

• Tariff number: 2505 10 00 00

- Applications: manufacture of glass, in the ceramics industry, in the production of enamels, antifoaming agent

AR0100 Sea sand, washed, thin

grain size . . . . . approx. 300 - 350 µm  
solubility in HCl . . . . . max. 0,2 %  
chlorides (Cl) . . . . . max. 0,015 %  
loss on ignition (800 °C) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AR01000500	500 g	Ⓜ
AR01001000	1 kg	Ⓜ

ART. NO.	VOLUME	CONTAINER
AR0100005P	5 kg	Ⓜ
AR0100025P	25 kg	Ⓜ

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

AR0101 Sea sand, washed, thick

grain size ..... approx. 1-2 mm  
 solubility in HCl ..... max. 0,2 %  
 chlorides (Cl) ..... max. 0,015 %  
 loss on ignition (800 °C) ..... max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AR01011000	1 kg	
AR0101005P	5 kg	

ART. NO.	VOLUME	CONTAINER
AR0101025P	25 kg	

## SELENIUM




SE0025 Selenium, black, powder



- Se
- M = 78,96 g/mol
- CAS [7782-49-2]
- EINECS-No.: 231-957-4
- Solub. in water: (20 °C): slightly soluble
- Melting point: 217 °C
- Boiling point: 685 °C
- Vapour pressure: (20 °C) 0,001 hPa
- LD 50 (oral, rat): 360 mg/kg
- EC-Index-No.: 034-001-00-2
- ADR: 6.1 T5 III UN 3283
- IMDG: 6.1 III UN 3283
- IATA/ICAO: 6.1 III UN 3283

- GHS-signal word: Danger
- GHS-H sentences: H301 - H331 - H373 - H413
- GHS-P sentences: P260 - P261 - P321 - P304 + P340 - P405 - P501a
- Tariff number: 2804 90 00 00
- Applications: analytical chemistry, laboratory reagent, catalyst (for determination of: nitrogen), synthesis of organic products, photography, pigment, in the electronic industry, manufacturing of photoelectric cells, in the rubber industry.

assay (gravimetric) ..... min. 99 %  
 copper (Cu) ..... max. 0,005 %  
 iron (Fe) ..... max. 0,05 %  
 lead (Pb) ..... max. 0,05 %  
 residue on ignition ..... max. 0,5 %  
 grain size (> 150 µm) ..... max. 5 %

ART. NO.	VOLUME	CONTAINER
SE00250050	50 g	
SE00250100	100 g	
SE00250250	250 g	

## SELENIUM DIOXIDE

SE0039 Selenium dioxide, EssentQ®



- Synonyms: Selenium(IV) oxide, Selenious anhydride
- SeO<sub>2</sub>
- M = 110,96 g/mol
- CAS [7446-08-4]
- EINECS-No.: 231-194-7
- Solub. in water: (14 °C): 384 g/l
- Vapour pressure: (70 °C) 16 hPa
- LD 50 (oral, rat): 68,1 mg/kg
- EC-Index-No.: 034-002-00-8
- ADR: 6.1 T5 II UN 3283
- IMDG: 6.1 II UN 3283

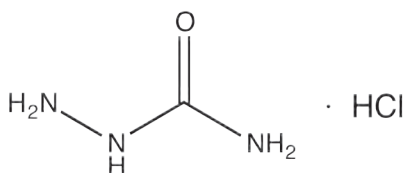
- IATA/ICAO: 6.1 II UN 3283
- GHS-signal word: Danger
- GHS-H sentences: H301 - H331 - H373 - H400 - H410
- GHS-P sentences: P260 - P261 - P321 - P304 + P340 - P405 - P501a
- Tariff number: 2811 29 90 90
- Applications: laboratory reagent, synthesis of organic products, oxidizing agent.

assay (iodometric) ..... min. 98 %

ART. NO.	VOLUME	CONTAINER
SE00390250	250 g	
SE00391000	1 kg	

## SEMICARBAZIDE HYDROCHLORIDE

SE0070 Semicarbazide hydrochloride, EssentQ®



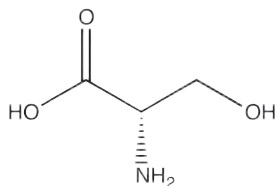
- Synonyms: Hydrazinecarboxamide monohydrochloride, N-Aminourea hydrochloride, Carbamylhydrazine hydrochloride
- CH<sub>5</sub>N<sub>3</sub>O·HCl
- M = 111,53 g/mol
- CAS [563-41-7]
- EINECS-No.: 209-247-0
- Solub. in water: (20 °C): freely soluble
- Melting point: 174 - 178 °C (decomposes)
- LD 50 (oral, rat): 123 mg/kg
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H301 - H330 - H373 - H315 - H319
- GHS-P sentences: P260 - P284 - P305 + P351 + P338 - P320 - P405 - P501a
- Tariff number: 2928 00 90 90
- Applications: analytical chemistry, laboratory reagent (for the analysis of: aldehydes and ketones), synthesis of organic products.
- Appearance: White crystalline powder

assay (argentometric) ..... min. 98 %  
 identity (IR-spectrum) ..... passes test  
 residue on ignition ..... max. 0,02 %

ART. NO.	VOLUME	CONTAINER
SE00700100	100 g	

## L-SERINE

SE0105 L-Serine, extra pure, Pharmapur®, Ph Eur, BP, USP



- Synonyms: 3-Hydroxy-L-alanine
- $C_3H_7NO_3$
- $M = 105,09 \text{ g/mol}$
- CAS [56-45-1]
- EINECS-No.: 200-274-3
- Solub. in water: (20 °C): 364 g/l
- Melting point: 215 - 225 °C
- Tariff number: 2922 50 00 90
- Applications: in biochemistry, synthesis of organic products, in pharma industry.

assay (titration with  $HClO_4$ , on dried sample) ..... 98,5 - 101,0 %  
 identification ..... passes test  
 appearance of solution ..... passes test  
 specific rotation ( $[\alpha]_{20}^D$ ;  $c = 10$ , HCl 2N, on dried sample) ..... + 14,0 ° - + 16,0 °  
 specific rotation ( $[\alpha]_{25}^D$ ,  $c = 10$ , HCl 2N) ..... + 14,0 ° - + 15,6 °  
 chlorides (Cl) ..... max. 200 ppm  
 sulfates ( $SO_4$ ) ..... max. 300 ppm  
 ammonium ( $NH_4$ ) ..... max. 0,02 %  
 iron (Fe) ..... max. 10 ppm  
 ninhydrin-positive substances ..... passes test  
 residue on ignition ..... max. 0,1 %  
 loss on drying (105 °C) ..... max. 0,2 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SE01050100	100 g	0

## SILICA GEL (ORANGE)

GE0042 Silica gel with humidity indicator (orange), 1 - 3 mm

- Solub. in water: (20 °C): 1 g/l
- Melting point: > 1000 °C
- Tariff number: 2811 22 00 90
- Applications: desiccant.

water absorption capacity (24 hours at 80 % relative humidity) ..... min. 27 %  
 loss on drying (180 °C) ..... max. 2 %

ART. NO.	VOLUME	CONTAINER
GE00420500	500 g	P
GE00421000	1 kg	P
GE0042005P	5 kg	P
GE0042025P	25 kg	P

GE0043 Silica gel with humidity indicator (orange), 2,5 - 6 mm

- Solub. in water: (20 °C): insoluble
- Melting point: > 1000 °C
- Tariff number: 2811 22 00 90
- Applications: analytical chemistry, chromatography.

water absorption capacity (24 hours at 80 % relative humidity) ..... min. 27 %  
 loss on drying (180 °C) ..... max. 2 %

ART. NO.	VOLUME	CONTAINER
GE00430500	500 g	P
GE00431000	1 kg	P
GE0043005P	5 kg	P
GE0043025P	25 kg	P

## SILICA GEL 60, FOR FLASH CHROMATOGRAPHY

GE0048 Silica gel 60, 0,04 - 0,06 mm, for flash chromatography (230 - 400 mesh ASTM)

- $SiO_2$
- $M = 60,09 \text{ g/mol}$
- CAS [7631-86-9]
- EINECS-No.: 231-545-4
- Solub. in water: (20 °C): insoluble
- Tariff number: 2811 22 00 10
- Applications: analytical chemistry, chromatography.

mean pore diameter ..... 60 Å  
 pH (10 %,  $H_2O$ ) ..... approx. 7  
 spec. surface ..... approx. 450  $m^2/g$   
 activity degree ..... II (Brockmann/Shodder)  
 iron (Fe) ..... max. 0,03 %  
 chlorides (Cl) ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
GE00481000	1 kg	P
GE0048005P	5 kg	P
GE0048025P	25 kg	P

## SILICA GEL 60, FOR COLUMN CHROMATOGRAPHY

GE0049 Silica gel 60, 0,06 - 0,2 mm, for column chromatography (70 - 230 mesh ASTM)

- SiO<sub>2</sub> mean pore diameter . . . . . 60 Å
- M = 60,09 g/mol pH (10 %, H<sub>2</sub>O) . . . . . approx. 7
- CAS [7631-86-9] spec. surface . . . . . approx. 450 m<sup>2</sup>/g
- EINECS-No.: 231-545-4 activity degree . . . . . II (Brockmann/Shodder)
- Solub. in water: (20 °C): insoluble iron (Fe) . . . . . max. 0,03 %
- Tariff number: 2811 22 00 10 chlorides (Cl) . . . . . max. 0,01 %
- Applications: analytical chemistry, chromatography.

ART. NO.	VOLUME	CONTAINER
GE00491000	1 kg	
GE0049005P	5 kg	
GE0049025P	25 kg	

GE0050 Silica gel 60, 0,2 - 0,5 mm, for column chromatography (35 - 70 mesh ASTM)

- SiO<sub>2</sub> mean pore diameter . . . . . 60 Å
- M = 60,09 g/mol pH (10 %, H<sub>2</sub>O) . . . . . approx. 7
- CAS [7631-86-9] spec. surface . . . . . 500 m<sup>2</sup>/g
- EINECS-No.: 231-545-4 activity degree . . . . . II (Brockmann/Shodder)
- Tariff number: 2811 22 00 10 iron (Fe) . . . . . max. 0,03 %
- Applications: analytical chemistry, chromatography. chlorides (Cl) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
GE00501000	1 kg	
GE0050005P	5 kg	

## SILICA GEL 60 FOR THIN LAYER CHROMATOGRAPHY

- Synonyms: Preparative layer chromatography, PLC/PCC
- SiO<sub>2</sub>
- M = 60,09 g/mol
- CAS [7631-86-9]
- EINECS-No.: 231-545-4
- Solub. in water: (20 °C): insoluble
- Tariff number: 2811 22 00 10
- Applications: analytical chemistry, chromatography.

GE0030 Silica gel 60, for thin layer chromatography

- grain size . . . . . 5 - 14 µm
- mean pore diameter . . . . . 60 Å
- spec. surface . . . . . 500 - 600 m<sup>2</sup>/g
- pH (10 %, H<sub>2</sub>O) . . . . . approx. 7
- solubility in water . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
GE00301000	1 kg	

GE0033 Silica gel 60, for thin layer chromatography, with gypsum and pigment addition for UV

- grain size . . . . . 5 - 14 µm
- mean pore diameter . . . . . 60 Å
- spec. surface . . . . . 500-600 m<sup>2</sup>/g
- pH (10 %, H<sub>2</sub>O) . . . . . approx. 7
- solubility in water . . . . . max. 0,2 %
- indicator . . . . . F254
- gypsum content . . . . . approx. 11 %

ART. NO.	VOLUME	CONTAINER
GE00331000	1 kg	
GE0033005P	5 kg	

## SILICEOUS EARTH

TI0010 Siliceous earth, purified and calcined, extra pure, Pharpur®, NF 

- Synonyms: Infusorial earth, Diatomaceous earth, Diatomite
- SiO<sub>2</sub>
- M = 60,08 g/mol
- CAS [68855-54-9]
- EINECS-No.: 272-489-0
- Solub. in water: (20 °C): almost insoluble
- Melting point: 1713 °C
- Boiling point: 2230 °C
- GHS-signal word: Warning
- GHS-H sentences: H371
- GHS-P sentences: P260 - P264 - P270 - P309 + P311 - P405 - P501a
- Tariff number: 2512 00 00 00
- Applications: for laboratory uses, in pharma industry.
- solubility in water . . . . . max. 0,2 %
- soluble in acid . . . . . max. 2,0 %
- arsenic eliminated by washing . . . . . max. 10 ppm
- lead eliminated by washing . . . . . max. 10 ppm
- loss on drying (105 °C) . . . . . max. 0,5 %
- residue on ignition (980 °C) . . . . . max. 2,0 %
- limit of nonsiliceous substances . . . . . passes test
- Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.
- Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
TI00101000	1 kg	
TI0010005P	5 kg	



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## SILICON DIOXIDE

SI0040 Silicon dioxide, highly dispersed

- SiO<sub>2</sub>
- M = 60,08 g/mol
- CAS [7631-86-9]
- EINECS-No.: 231-545-4
- Solub. in water: (20 °C): insoluble
- Melting point: 1726 °C
- LD 50 (oral, rat): > 10000 mg/kg
- Tariff number: 2811 22 00 90
- Applications: painting, in the coating industry, in the rubber industry, manufacture of adhesives, manufacturing of inks, cosmetics, in food industry.

assay (on dried sample) . . . . . min. 99,8 %  
 specific surface area (BET) . . . . . 200 ± 25 m<sup>2</sup>/g  
 HCl content . . . . . max. 0,025 %  
 pH (4 %, H<sub>2</sub>O) . . . . . 3,7 - 4,7  
 aluminium (as Al<sub>2</sub>O<sub>3</sub>) . . . . . max. 0,05 %  
 iron (as Fe<sub>2</sub>O<sub>3</sub>) . . . . . max. 0,003 %  
 titanium (as TiO<sub>2</sub>) . . . . . max. 0,03 %  
 loss on drying (195 °C) . . . . . max. 1,5 %

ART. NO.	VOLUME	CONTAINER
SI00400250	250 g	

## SILICONE LIQUID

SI0020 Silicone liquid, antifoaming

- CAS [63148-62-9]
- Density: 1,01 g/cm<sup>3</sup>
- Tariff number: 3910 00 00 90
- Applications: in the pharmaceuticals industry, cosmetics.

suitable for distillation of organic products

ART. NO.	VOLUME	CONTAINER
SI00200100	100 ml	
SI00200500	500 ml	

SI0030 Silicone liquid, low viscosity

- CAS [63148-62-9]
- Density: (25 °C) ~ 0,950 g/cm<sup>3</sup>
- Solub. in water: (20 °C): almost non-miscible
- Melting point: ~ -60 °C
- Flash pt. 316 °C
- Ignition temp.: > 400 °C
- Vapour pressure: (200 °C) 0,0133 hPa

- Refraction index: (n 25 °C/D) 1,4
- LD 50 (oral, rat): > 2000 mg/kg
- Tariff number: 3910 00 00 90
- Applications: in lubricant compositions, in the rubber industry, in the coating industry.





colour (Hazen) . . . . . max. 30  
 turbidity . . . . . max. 4 N.T.U.  
 viscosity . . . . . 18 - 22 mm<sup>2</sup>/s

ART. NO.	VOLUME	CONTAINER
SI00301000	1 l	

SI0025 Silicone liquid, for heating baths, EssentQ®

- CAS [63148-62-9]
- Density: 0,96 g/cm<sup>3</sup>
- Melting point: ~ -54 °C
- Flash pt. 300 °C
- Vapour pressure: (200 °C) ~ 1,47 hPa
- Refraction index: (n 25 °C/D) 1,402
- Tariff number: 3910 00 00 90
- Applications: for heating baths.

temperature range . . . . . -50 to 190°C  
 turbidity . . . . . max. 4 N.T.U.  
 viscosity . . . . . 95 - 105 mm<sup>2</sup>/s  
 volatile matter . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
SI00250500	500 ml	
SI00251000	1 l	
SI0025005P	5 l	
SI0025025P	25 l	

## SILICONE PASTE A

SI0033 Silicone paste A, EssentQ®, for lubrication at high temperature

- Solub. in water: (20 °C): insoluble
- Flash pt. > 400 °C
- Tariff number: 3910 00 00 90

- Applications: in lubricant compositions, protective agent (in the electronic industry, moisture), corrosion inhibitor. for greasing at high temperatures.

identity . . . . . passes test

ART. NO.	VOLUME	CONTAINER
SI00330100	100 g	

## SILICONE PASTE B

SI0034 Silicone paste B, EssentQ®, for lubrication at pressure and vacuum

- Solub. in water: (20 °C): insoluble
- Flash pt. > 400 °C
- LD 50 (oral, rat): > 5000 mg/kg
- Tariff number: 3910 00 00 90

- Applications: in lubricant compositions, for greasing at pressure or vacuum.

identity . . . . . passes test

ART. NO.	VOLUME	CONTAINER
SI00340100	100 g	

## SILVER CARBONATE

PL0010 Silver carbonate, EssentQ®



- Ag<sub>2</sub>CO<sub>3</sub>
- M = 275,75 g/mol
- CAS [534-16-7]
- EINECS-No.: 208-590-3
- Solub. in water: (20 °C): 0,032 g/l
- LD 50 (oral, rat): 3731 mg/kg
- GHS-signal word: Danger
- GHS-H sentences: H318
- GHS-P sentences: P280 - P305 + P351 + P338 - P310
- Tariff number: 2843 29 00 00
- Applications: analytical chemistry, laboratory reagent, microscopy, dye.

assay (argentometric) ..... min. 99 %  
 insoluble in HNO<sub>3</sub> ..... max. 0,05 %  
 chlorides (Cl) ..... max. 0,005 %  
 nitrates (NO<sub>3</sub>) ..... max. 0,05 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,01 %  
 arsenic (As) ..... max. 1 ppm  
 iron (Fe) ..... max. 0,002 %  
 lead (Pb) ..... max. 0,003 %  
 non precipitable with HCl ..... max. 0,5 %  
 loss on drying (105 °C) ..... max. 0,2 %

ART. NO.	VOLUME	CONTAINER
PL00100025	25 g	0

## SILVER CHLORIDE

PL0030 Silver chloride, EssentQ®

- AgCl
- M = 143,34 g/mol
- CAS [7783-90-6]
- EINECS-No.: 232-033-3
- Solub. in water: (25 °C): 0,00188 g/l
- Melting point: 455 °C
- Boiling point: 1554 °C
- LD 50 (oral, rat): > 5110 mg/kg
- Tariff number: 2843 29 00 00
- Applications: analytical chemistry, laboratory reagent, for reference electrodes.

assay ..... min. 99,5 %  
 insoluble in NH<sub>4</sub>OH ..... max. 0,05 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,001 %  
 copper (Cu) ..... max. 2 ppm  
 iron (Fe) ..... max. 5 ppm  
 lead (Pb) ..... max. 5 ppm  
 nickel (Ni) ..... max. 0,003 %

ART. NO.	VOLUME	CONTAINER
PL00300025	25 g	0
PL00300100	100 g	0

## SILVER NITRATE

- AgNO<sub>3</sub>
- M = 169,87 g/mol
- CAS [7761-88-8]
- EINECS-No.: 231-853-9
- Solub. in water: (20 °C): soluble
- Melting point: 212 °C
- Boiling point: 444 °C (decomposes)

- LD 50 (oral, rat): 1173 mg/kg
- EC-Index-No.: 047-001-00-2
- ADR: 5.1 O2 II UN 1493
- IMDG: 5.1 II UN 1493
- IATA/ICAO: 5.1 II UN 1493
- GHS-signal word: Danger
- GHS-H sentences: H272 - H314 - H400 - H410

- GHS-P sentences: P221 - P210 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2843 21 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, photography, manufacture of dyes, antiseptic, manufacture of mirrors.
- Appearance: White crystals

PL0049 Silver nitrate, extra pure, Phampur®, Ph Eur, BP, USP



assay (argentometric) ..... 99,0 - 100,5 %  
 assay (argentometric, on dried sample) ..... 99,8 - 100,5 %  
 identification ..... passes test  
 appearance of solution ..... clear and colourless  
 acidity or alkalinity ..... passes test  
 aluminium, lead, copper and bismuth ..... passes test  
 foreign salts ..... max. 0,3 %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
PL00490025	25 g	0
PL00490050	50 g	0
PL00490100	100 g	0
PL00490250	250 g	0
PL00491000	1 kg	0

PL0050 Silver nitrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (argentometric) ..... 99,0 - 100,5 %  
 identity (IR-spectrum) ..... passes test  
 appearance of solution ..... clear and colourless  
 clarity of solution ..... passes test  
 acidity or alkalinity ..... passes test  
 free acid ..... passes test  
 chlorides (Cl) ..... max. 5 ppm  
 sulfates (SO<sub>4</sub>) ..... max. 0,002 %

foreign salts ..... max. 0,3 %  
 aluminium, lead, copper and bismuth ..... passes test  
 copper (Cu) ..... max. 5 ppm  
 iron (Fe) ..... max. 5 ppm  
 lead (Pb) ..... max. 0,001 %  
 non precipitable with HCl (as SO<sub>4</sub>) ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
PL00500025	25 g	0
PL00500050	50 g	0
PL00500100	100 g	0
PL00500250	250 g	0
PL00501000	1 kg	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## SILVER NITRATE, VOLUMETRIC SOLUTIONS

## PL0057 Silver nitrate, solution 1 mol/l (1 N)



- AgNO<sub>3</sub>
- M = 169,87 g/mol
- CAS [7761-88-8]
- EINECS-No.: 231-853-9
- Density: 1,14 g/cm<sup>3</sup>
- LD 50 (oral, rat): 1173 mg/kg (pure substance)
- EC-Index-No.: 047-001-00-2
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H301 - H314 - H411
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2843 21 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, precipitant for: Cl<sup>-</sup>, I<sup>-</sup>, CN<sup>-</sup>, SCN<sup>-</sup>...

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,1699 g AgNO<sub>3</sub>  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium chloride volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PL00570500	500 ml	0
PL00571000	1 l	0

## PL0055 Silver nitrate, solution 0,1 mol/l (0,1 N)



- AgNO<sub>3</sub>
- M = 169,87 g/mol
- CAS [7761-88-8]
- EINECS-No.: 231-853-9
- Density: 1,01 g/cm<sup>3</sup>
- LD 50 (oral, rat): 1173 mg/kg (pure substance)
- EC-Index-No.: 047-001-00-2
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H412
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 2843 21 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,01699 g AgNO<sub>3</sub>  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium chloride volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PL00550500	500 ml	0
PL00551000	1 l	0
PL00552500	2,5 l	0
PL0055005P	5 l	0
PL0055010C	10 l	0

## PL0059 Silver nitrate, solution 0,05 mol/l (0,05 N)

- AgNO<sub>3</sub>
- M = 169,87 g/mol
- CAS [7761-88-8]
- EINECS-No.: 231-853-9
- Density: ~ 1,00 g/cm<sup>3</sup>
- LD 50 (oral, rat): 1173 mg/kg (pure substance)
- EC-Index-No.: 047-001-00-2
- GHS-H sentences: H412
- GHS-P sentences: P273 - P501a
- Tariff number: 2843 21 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,008494 g AgNO<sub>3</sub>  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium chloride volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PL00591000	1 l	0

## PL0056 Silver nitrate, solution 0,02 mol/l (0,02 N)

- AgNO<sub>3</sub>
- M = 169,87 g/mol
- CAS [7761-88-8]
- EINECS-No.: 231-853-9
- Density: 1,00 g/cm<sup>3</sup>
- LD 50 (oral, rat): 1173 mg/kg (pure substance)
- EC-Index-No.: 047-001-00-2
- GHS-H sentences: H412
- GHS-P sentences: P273 - P501a
- Tariff number: 2843 21 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,003398 g AgNO<sub>3</sub>  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium chloride volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PL00561000	1 l	0

## PL0058 Silver nitrate, solution 0,01 mol/l (0,01 N)

- AgNO<sub>3</sub>
- M = 169,87 g/mol
- CAS [7761-88-8]
- EINECS-No.: 231-853-9
- Density: 1,00 g/cm<sup>3</sup>
- EC-Index-No.: 047-001-00-2
- Tariff number: 2843 21 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,001699 g AgNO<sub>3</sub>  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium chloride volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
PL00581000	1 l	0

PL0051 Silver nitrate, concentrated solution to prepare 1 l of solution 0,1 mol/l (0,1 N)



- AgNO<sub>3</sub>
- M = 169,87 g/mol
- CAS [7761-88-8]
- EINECS-No.: 231-853-9
- Density: 1,27 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 1173 mg/kg (pure substance)
- EC-Index-No.: 047-001-00-2
- ADR: 8 C1 III UN 1760
- IMDG: 8 III UN 1760
- IATA/ICAO: 8 III UN 1760

- GHS-signal word: Danger
- GHS-H sentences: H314 - H302 - H411
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2843 21 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, photography, manufacture of dyes.

amount of substance: 16,987 g AgNO<sub>3</sub>  
concentrated solution . . . . . 1 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
PL005100PA	u.	Ø

**SILVER OXIDE**

PL0060 Silver oxide, EssentQ®, Reag. Ph Eur



- Ag<sub>2</sub>O
- M = 231,74 g/mol
- CAS [20667-12-3]
- EINECS-No.: 243-957-1
- Solub. in water: (20 °C): 0,0016 g/l
- Melting point: > 200 °C (decomposes)
- LD 50 (oral, rat): 2820 mg/kg
- ADR: 5.1 OC2 II UN 3085
- IMDG: 5.1 II UN 3085
- IATA/ICAO: 5.1 II UN 3085
- GHS-signal word: Danger
- GHS-H sentences: H272 - H314 - EUH044
- GHS-P sentences: P221 - P210 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2843 29 00 00

- Applications: analytical chemistry, laboratory reagent, oxidizing agent, synthesis of organic products, catalyst, manufacture of glass.
- Appearance: Black powder

assay (argentometric) . . . . . 99 - 101 %  
silver (Ag) . . . . . 92,2 - 94,0 %  
carbonates (CO<sub>3</sub>) . . . . . max. 0,2 %  
nitrates (NO<sub>3</sub>) . . . . . max. 0,01 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
copper (Cu) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 0,003 %  
lead (Pb) . . . . . max. 0,001 %  
sodium (Na) . . . . . max. 0,01 %  
loss on drying . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
PL00600010	10 g	Ø
PL00600025	25 g	Ø

**SILVER SULFATE**

- Synonyms: Sulfuric acid silver salt
- Ag<sub>2</sub>SO<sub>4</sub>
- M = 311,79 g/mol
- CAS [10294-26-5]
- EINECS-No.: 233-653-7
- Solub. in water: (25 °C): 8 g/l
- Melting point: 655 °C

- LD 50 (oral, rat): ~ 5000 mg/kg
- ADR: 9 M7 III
- UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Danger
- GHS-H sentences: H318 - H410

- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P310 - P391 - P501a
- Tariff number: 2843 29 00 90
- Applications: analytical chemistry, laboratory reagent, catalyst (determining COD).

PL0070 Silver sulfate, EssentQ®



assay (argentometric) . . . . . min. 99,0 %  
chlorides (Cl) . . . . . max. 0,001 %  
nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
copper (Cu) . . . . . max. 0,005 %  
iron (Fe) . . . . . max. 0,001 %  
lead (Pb) . . . . . max. 0,001 %  
non precipitable with HCl (as SO<sub>4</sub>) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
PL00701000	1 kg	Ø
PL00700025	25 g	Ø
PL00700100	100 g	Ø

ART. NO.	VOLUME	CONTAINER
PL00700250	250 g	Ø

PL0071 Silver sulfate, ExpertQ®, for analysis, ACS



assay (argentometric) . . . . . min. 99,5 %  
identity . . . . . passes test  
insoluble in water and silver chloride . . . . . max. 0,02 %  
chlorides (Cl) . . . . . max. 0,001 %  
nitrates (NO<sub>3</sub>) . . . . . max. 0,001 %  
copper (Cu) . . . . . max. 5 ppm

iron (Fe) . . . . . max. 5 ppm  
lead (Pb) . . . . . max. 10 ppm  
nickel (Ni) . . . . . max. 10 ppm  
zinc (Zn) . . . . . max. 5 ppm  
non precipitable with HCl (as SO<sub>4</sub>) . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
PL00710025	25 g	Ø
PL00710100	100 g	Ø
PL00710250	250 g	Ø

## SILVER SULFATE, SULFURIC SOLUTIONS

PL0072 Silver sulfate, solution 1% in sulfuric acid, for COD determination, according to ISO 6060



- Ag<sub>2</sub>SO<sub>4</sub>
- M = 311,79 g/mol
- CAS [10294-26-5]
- EINECS-No.: 233-653-7
- Density: 1,84 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Boiling point: > 340 °C
- LD 50 (oral, rat): 2140 mg/kg (sulfuric acid)
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264

- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: determining COD (catalyst).

mixture: 1 g of silver sulfate in 100 ml of sulfuric acid 96%

ART. NO.	VOLUME	CONTAINER
PL00721000	1 l	0
PL00722500	2,5 l	0

PL0073 Silver sulfate, solution 0,66% in sulfuric acid



- Ag<sub>2</sub>SO<sub>4</sub>
- M = 311,79 g/mol
- CAS [10294-26-5]
- EINECS-No.: 233-653-7
- Density: 1,84 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264

- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: determining COD (catalyst).

mixture: 0,66 g of silver sulfate in 100 ml of sulfuric acid 96%

ART. NO.	VOLUME	CONTAINER
PL00731000	1 l	0

## SODA LIME

CA0170 Soda lime, with indicator



- Synonyms: Mixture of calcium hydroxide and sodium hydroxide
- CAS [8006-28-8]
- Solub. in water: (20 °C): insoluble
- ADR: 8 C6 III UN 1907
- IMDG: 8 III UN 1907
- IATA/ICAO: 8 III UN 1907
- GHS-signal word: Danger

- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry; for the absorption of: carbon dioxide.

CO<sub>2</sub>-absorption capacity . . . . . min. 28 %  
loss on drying (105°C) . . . . . 13 - 18 %

ART. NO.	VOLUME	CONTAINER
CA01701000	1 kg	0

## SODIUM

SO0010 Sodium, metal, EssentQ®, in vaseline oil, Reag. Ph Eur



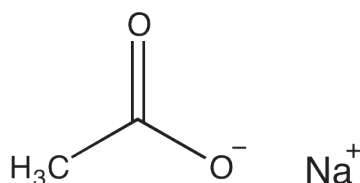
- Na
- M = 22,99 g/mol
- CAS [7440-23-5]
- EINECS-No.: 231-132-9
- Solub. in water: (20 °C): explosion reaction
- Melting point: 98 °C
- Boiling point: 889 °C
- Ignition temp.: > 115 °C
- Vapour pressure: (400 °C) 1,6 hPa
- EC-Index-No.: 011-001-00-0
- ADR: 4.3 W2 I UN 1428
- IMDG: 4.3 I UN 1428

- IATA/ICAO: 4.3 I UN 1428
- GHS-signal word: Danger
- GHS-H sentences: H260 - H314 - EUH014
- GHS-P sentences: P231 + P232 - P260 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2805 11 00 00
- Applications: analytical chemistry, laboratory reagent, to make sodium salts, reducing agent (ketones), for the synthesis of: lead tetraethyl, manufacturing of photoelectric cells, manufacturing of sodium lamps.

chlorides (Cl) . . . . . max. 0,01 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
calcium (Ca) . . . . . max. 0,1 %  
iron (Fe) . . . . . max. 0,002 %  
potassium (K) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
SO00100100	100 g	0
SO00100500	500 g	0

## SODIUM ACETATE ANHYDROUS



- Synonyms: Acetic acid sodium salt anhydrous
- CH<sub>3</sub>COONa
- M = 82,03 g/mol
- CAS [127-09-3]
- EINECS-No.: 204-823-8
- Solub. in water: (20 °C): 365 g/l
- Melting point: 324 °C (decomposes)
- Boiling point: > 400 °C (decomposes)

- Flash pt. > 250 °C
- Ignition temp.: 607 °C
- LD 50 (oral, rat): 3530 mg/kg
- Tariff number: 2915 29 00 90
- Applications: in food industry, analytical chemistry, synthesis of organic products, photography.

**SO0032 Sodium acetate anhydrous, EssentQ®**

assay (titration with HClO<sub>4</sub>, on dried sample) . . . . . 99 - 101 %  
appearance of solution (10 %, H<sub>2</sub>O) . . . . . passes test  
pH (5 %, H<sub>2</sub>O) . . . . . 7,5 - 9,2  
insoluble in water . . . . . max. 0,05 %  
acidity (as CH<sub>3</sub>COOH) . . . . . max. 0,01 %  
alkalinity (as NaOH) . . . . . max. 0,01 %  
chlorides (Cl) . . . . . max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %

aluminium (Al) . . . . . max. 0,005 %  
arsenic (As) . . . . . max. 0,0002 %  
calcium and magnesium (as Ca) . . . . . passes test  
heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,001 %  
potassium (K) . . . . . max. 0,05 %  
zinc (Zn) . . . . . max. 0,0025 %  
substances reducing KMnO<sub>4</sub> . . . . . passes test  
loss on drying (130°C) . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
SO00320500	500 g	Ⓟ
SO00321000	1 kg	Ⓟ
SO0032005P	5 kg	Ⓟ
SO0032025P	25 kg	Ⓟ

**SO0035 Sodium acetate anhydrous, ExpertQ®, for analysis, ACS, Reag. Ph Eur**

assay (titration with HClO<sub>4</sub>) . . . . . min. 99,0 %  
identity . . . . . passes test  
appearance of solution (10 %, H<sub>2</sub>O) . . . . . passes test  
insoluble in water . . . . . max. 0,01 %  
pH (5 %, H<sub>2</sub>O) . . . . . 7,0 - 9,2  
chlorides (Cl) . . . . . max. 0,002 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %

aluminium (Al) . . . . . max. 0,001 %  
calcium (Ca) . . . . . max. 0,005 %  
copper (Cu) . . . . . max. 3 ppm  
heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,001 %  
magnesium (Mg) . . . . . max. 0,002 %  
potassium (K) . . . . . max. 0,05 %  
loss on drying (120 °C) . . . . . max. 1,0 %

ART. NO.	VOLUME	CONTAINER
SO00350250	250 g	Ⓟ
SO00350500	500 g	Ⓟ
SO00351000	1 kg	Ⓟ
SO0035005P	5 kg	Ⓟ
SO0035025P	25 kg	Ⓟ

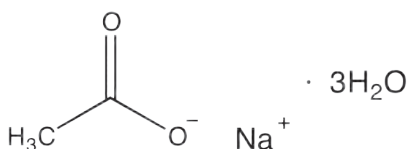
**SO0036 Sodium acetate anhydrous, molecular biology grade**

assay (titration with HClO<sub>4</sub>) . . . . . min. 99 %  
absorbance of an aqueous solution  
0,1 M in a 1 cm cell at 260 nm . . . . . max. 0,01 AU  
absorbance of an aqueous solution  
0,1 M in a 1 cm cell at 280 nm . . . . . max. 0,01 AU

heavy metals (as Pb) . . . . . max. 0,001 %  
DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
SO00360500	500 g	Ⓟ
SO00361000	1 kg	Ⓟ
SO0036005P	5 kg	Ⓟ

**SODIUM ACETATE TRIHYDRATE**



- Synonyms: Acetic acid sodium salt trihydrate
- CH<sub>3</sub>COONa·3H<sub>2</sub>O
- M = 136,08 g/mol
- CAS [6131-90-4]
- EINECS-No.: 204-823-8
- Solub. in water: (20 °C): 613 g/l
- Melting point: 58 °C
- Boiling point: > 400 °C (anhydrous substance) (decomposes)

- Flash pt. > 250 °C (anhydrous substance)
- Ignition temp.: 607 °C
- LD 50 (oral, rat): 3530 mg/kg (anhydrous substance)
- Tariff number: 2915 29 00 90
- Applications: analytical chemistry, laboratory reagent, in the pharmaceuticals industry, in food industry (E 262), in buffer solutions (for biology).

**SO0024 Sodium acetate trihydrate, extra pure, Phampur®, Ph Eur, BP, USP**

assay (titr. with HClO<sub>4</sub>, referred to dried sample) . . . . . 99,0 - 101,0 %  
identification . . . . . passes test  
appearance of solution . . . . . clear and colourless  
insoluble in water . . . . . max. 0,05 %  
pH (3 %, H<sub>2</sub>O) . . . . . 7,5 - 9,2  
pH (5 %, H<sub>2</sub>O) . . . . . 7,5 - 9,0  
chlorides (Cl) . . . . . max. 200 ppm  
sulfates (SO<sub>4</sub>) . . . . . max. 50 ppm  
arsenic (As) . . . . . max. 0,2 ppm

calcium and magnesium (as Ca) . . . . . max. 50 ppm  
iron (Fe) . . . . . max. 10 ppm  
potassium (K) . . . . . passes test  
reducing substances . . . . . passes test  
loss on drying (120 °C) . . . . . 38,0 - 41,0 %  
loss on drying (130 °C) . . . . . 39,0 - 40,5 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO00240500	500 g	Ⓟ
SO00241000	1 kg	Ⓟ
SO0024005P	5 kg	Ⓟ
SO0024025P	25 kg	Ⓟ

**SO0025 Sodium acetate trihydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur**

assay (titration with HClO<sub>4</sub>) . . . . . 99,0 - 101,0 %  
assay (titr. with HClO<sub>4</sub>, referred to dried sample) . . . . . 99,0 - 101,0 %  
identity (IR-spectrum) . . . . . passes test  
appearance of solution . . . . . clear and colourless  
insoluble in water . . . . . max. 0,005 %  
pH (5 %, H<sub>2</sub>O) . . . . . 7,5 - 9,0  
arsenic (As) . . . . . max. 0,2 ppm  
chlorides (Cl) . . . . . max. 5 ppm  
phosphates (as PO<sub>4</sub>) . . . . . max. 2 ppm  
sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
aluminium (Al) . . . . . max. 5 ppm  
calcium (Ca) . . . . . max. 0,001 %

calcium and magnesium (as Ca) . . . . . max. 0,005 %  
copper (Cu) . . . . . max. 3 ppm  
heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 5 ppm  
lead (Pb) . . . . . max. 5 ppm  
magnesium (Mg) . . . . . max. 5 ppm  
potassium (K) . . . . . max. 0,005 %  
zinc (Zn) . . . . . max. 5 ppm  
reducing substances . . . . . passes test  
substances reducing KMnO<sub>4</sub> (as HCOOH) . . . . . max. 0,005 %  
loss on drying (130 °C) . . . . . 39,0 - 40,5 %

ART. NO.	VOLUME	CONTAINER
SO00250500	500 g	Ⓟ
SO00251000	1 kg	Ⓟ
SO0025005P	5 kg	Ⓟ
SO0025025P	25 kg	Ⓟ



## SO0030 Sodium acetate trihydrate, HPLC grade

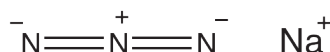
assay (titration with  $\text{HClO}_4$ ) ..... min. 99,0 %  
 identity (IR-spectrum) ..... passes test  
 insoluble in water ..... max. 0,005 %  
 max. absorbance of an aqueous sol. 10 % in a 1,0 cm

cell at wavelength ..... absorbance  
 250 nm. .... 0,05 AU  
 260 nm ..... 0,01 AU

ART. NO.	VOLUME	CONTAINER
SO00300250	250 g	
SO00301000	1 kg	

## SODIUM AZIDE

## SO0091 Sodium azide, EssentQ®, Reag. Ph Eur

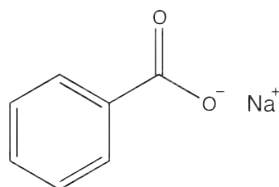


- Synonyms: Hydrazoic acid sodium salt
- $\text{NaN}_3$
- M = 65,01 g/mol
- CAS [26628-22-8]
- EINECS-No.: 247-852-1
- Solub. in water: (17 °C): 420 g/l
- Melting point: 275 °C (decomposes)
- LD 50 (oral, rat): 45 mg/kg
- EC-Index-No.: 011-004-00-7
- ADR: 6.1 T5 II UN 1687
- IMDG: 6.1 II UN 1687
- IATA/ICAO: 6.1 II UN 1687
- GHS-signal word: Danger
- GHS-H sentences: H300 - H400 - H410 - EUH032
- GHS-P sentences: P273 - P264 - P270 - P321 - P405 - P501a
- Tariff number: 2850 00 60 10
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products, preservative agent, salt for azidations, herbicide.

assay (titration with  $\text{HClO}_4$ ) ..... min. 99 %  
 insoluble in water ..... max. 0,05 %  
 alkalinity (as NaOH) ..... max. 0,1 %  
 chlorides (Cl) ..... max. 0,05 %  
 nitrates ( $\text{NO}_3$ ) ..... max. 0,05 %  
 sulfates ( $\text{SO}_4$ ) ..... max. 0,05 %  
 heavy metals (as Pb) ..... max. 0,001 %  
 iron (Fe) ..... max. 0,05 %  
 loss on drying ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
SO00910100	100 g	
SO00910250	250 g	
SO0091005P	5 kg	

## SODIUM BENZOATE



- $\text{C}_6\text{H}_5\text{NaO}_2$
- M = 144,11 g/mol
- CAS [532-32-1]
- EINECS-No.: 208-534-8
- Solub. in water: (20 °C): ~ 660 g/l
- Melting point: 410 - 430 °C
- Flash pt. > 100 °C
- Ignition temp.: > 500 °C

- LD 50 (oral, rat): 3140 mg/kg
- Tariff number: 2916 31 00 90
- Applications: antibiotic, perfumery, in food industry, in the pharmaceuticals industry.

## SO0125 Sodium benzoate, EssentQ®

assay (titration with  $\text{HClO}_4$ ) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 water (K.F.) ..... max. 1,5 %

ART. NO.	VOLUME	CONTAINER
SO01251000	1 kg	

## SO0126 Sodium benzoate, extra pure, Pharmapur®, Ph Eur, BP, NF

assay (titration with  $\text{HClO}_4$ , on dried sample) ..... 99,0 - 100,5 %  
 identification ..... passes test  
 appearance of solution ..... passes test  
 acidity or alkalinity ..... passes test  
 alkalinity ..... passes test  
 halogenated compounds ..... passes test

loss on drying (105 °C) ..... max. 2,0 %  
 water (K.F.) ..... max. 1,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO01261000	1 kg	
SO0126005P	5 kg	
SO0126025P	25 kg	

## SODIUM BOROHYDRIDE

SO0105 Sodium borohydride, powder, EssentQ®



- Synonyms: Sodium tetrahydroborate
- NaBH<sub>4</sub>
- M = 37,83 g/mol
- CAS [16940-66-2]
- EINECS-No.: 241-004-4
- Solub. in water: (25 °C): 550 g/l (decomposes slowly)
- Melting point: ~ 400 °C (decomposes slowly)
- Flash pt. 69 °C
- Ignition temp.: ~ 220 °C
- LD 50 (oral, rat): 69 mg/kg
- ADR: 4.3 W2 I UN 1426

- IMDG: 4.3 I UN 1426
- IATA/ICAO: 4.3 I UN 1426
- GHS-signal word: Danger
- GHS-H sentences: H260 - H301 - H314
- GHS-P sentences: P231 + P232 - P260 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2850 00 20 90
- Applications: reducing agent, synthesis of organic products.

assay (iodometric) . . . . . min. 98 %

ART. NO.	VOLUME	CONTAINER
SO01050025	25 g	Ⓜ
SO01050100	100 g	Ⓜ
SO01050500	500 g	Ⓜ
SO01051000	1 kg	Ⓜ

## SODIUM BROMIDE

SO0170 Sodium bromide, extra pure, Pharmpur®, Ph Eur, BP, USP

assay (argentometric) . . . . . 98,5 - 100,5 %  
 on dried sample) . . . . . passes test  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 acidity or alkalinity . . . . . passes test  
 bromates (BrO<sub>3</sub>) . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,6 %  
 iodides (I) . . . . . passes test  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01%

- EINECS-No.: 231-599-9
- Solub. in water: (20 °C): soluble
- Melting point: 755 °C
- Boiling point: 1393 °C

- Vapour pressure: (806 °C) 1,3 hPa
- LD 50 (oral, rat): 3500 mg/kg
- Tariff number: 2827 51 00 00
- Applications: laboratory reagent, photography.

iron (Fe) . . . . . max. 20 ppm  
 magnesium and alkaline-earth metals  
 (as Ca) . . . . . max. 200 ppm  
 loss on drying (105 °C) . . . . . max. 3,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO01700500	500 g	Ⓜ
SO01701000	1 kg	Ⓜ

SO0171 Sodium bromide, ExpertQ®, for analysis, ACS, Reag. Ph Eur

assay (argentometric) . . . . . min. 99 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 5,0 - 8,8  
 bromates (BrO<sub>3</sub>) . . . . . max. 0,001 %  
 chlorides (Cl) . . . . . max. 0,2 %  
 iodides (I) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 total nitrogen (as N) . . . . . max. 0,0005 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 arsenic (As) . . . . . max. 2 ppm

barium (Ba) . . . . . max. 0,002 %  
 calcium (Ca) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 3 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
SO01710250	250 g	Ⓜ
SO01710500	500 g	Ⓜ
SO01711000	1 kg	Ⓜ

## SODIUM CARBONATE ANHYDROUS

- Synonyms: Anhydrous soda
- Na<sub>2</sub>CO<sub>3</sub>
- M = 105,99 g/mol
- CAS [497-19-8]
- EINECS-No.: 207-838-8
- Solub. in water: (20 °C): 220 g/l
- Melting point: 854 °C

- Boiling point: 1600 °C (decomposes)
- LD 50 (oral, rat): 4090 mg/kg
- EC-Index-No.: 011-005-00-2
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313

- Tariff number: 2836 20 00 00
- Applications: analytical chemistry, laboratory reagent, to make sodium salts, manufacture of glass, detergent, in the textile industry, photography, in the pharmaceuticals industry, in food industry (E 500).

SO0119 Sodium carbonate anhydrous, secondary standard for volumetric titrations, Titrasure®




assay (on dried sample) . . . . . min. 99,5 %  
 calcium (Ca) . . . . . max. 0,03 %  
 chloride (Cl) . . . . . max. 0,001 %  
 heavy metals (by ICP-OES) . . . . . max. 5 ppm  
 insoluble matter . . . . . max. 0,01 %  
 iron (Fe) . . . . . max. 5 ppm

loss on drying (285 °C) . . . . . max. 1,0 %  
 magnesium (Mg) . . . . . max. 0,005 %  
 phosphates (PO<sub>4</sub>) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,005 %  
 silica (SiO<sub>2</sub>) . . . . . max. 0,005 %  
 sulfur compounds (as SO<sub>4</sub>) . . . . . max. 0,003 %





ART. NO.	VOLUME	CONTAINER
SO01190080	80 g	Ⓜ


A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

SO0115 Sodium carbonate anhydrous, extra pure, Pharmapur®, Ph Eur, BP, NF 

assay (acidimetric, referred to dried sample) . . . . . 99,5 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 alkali hydroxides and bicarbonates . . . . . passes test  
 chlorides (Cl) . . . . . max. 125 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 250 ppm  
 arsenic (As) . . . . . max. 5 ppm





iron (Fe) . . . . . max. 50 ppm  
 loss on drying (105°C, 4h) . . . . . max. 0,5 %  
 loss on drying (300°C) . . . . . max. 1,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO01150500	500 g	
SO01151000	1 kg	
SO0115005P	5 kg	
SO0115025P	25 kg	

SO0116 Sodium carbonate anhydrous, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur 

assay (acidimetric, on dried sample) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
 phosphates and silicates (as SiO<sub>2</sub>) . . . . . max. 0,005 %  
 silica (SiO<sub>2</sub>) . . . . . max. 0,005 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 aluminium (Al) . . . . . max. 0,001 %

arsenic (As) . . . . . max. 1 ppm  
 calcium (Ca) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,005 %  
 sulphur compounds (as SO<sub>4</sub>) . . . . . max. 0,003 %  
 loss on drying (300 °C) . . . . . max. 1,0 %

ART. NO.	VOLUME	CONTAINER
SO01160500	500 g	
SO01161000	1 kg	
SO0116005P	5 kg	
SO0116025P	25 kg	

## SODIUM CARBONATE DECAHYDRATE

- Synonyms: Soda decahydrate
- Na<sub>2</sub>CO<sub>3</sub>·10H<sub>2</sub>O
- M = 286,14 g/mol
- CAS [6132-02-1]
- EINECS-No.: 207-838-8
- Solub. in water: (20 °C): ~ 210 g/l





- Melting point: 33°C
- LD 50 (oral, rat): 4090 mg/kg (anhydrous substance)
- EC-Index-No.: 011-005-00-2
- GHS-signal word: Warning
- GHS-H sentences: H319

- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2836 20 00 00
- Applications: analytical chemistry, laboratory reagent, for pharmaceutical use, in food industry (E 500), in the textile industry, whitener agent.

SO0117 Sodium carbonate decahydrate, extra pure, Pharmapur®, Ph Eur, BP 

assay (acidimetric, as Na<sub>2</sub>CO<sub>3</sub>) . . . . . 36,7 - 40,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 alkali hydroxides and bicarbonates . . . . . passes test  
 chlorides (Cl) . . . . . max. 50 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 100 ppm  
 arsenic (As) . . . . . max. 2 ppm

iron (Fe) . . . . . max. 20 ppm  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO01170500	500 g	
SO01171000	1 kg	
SO0117005P	5 kg	
SO0117025P	25 kg	

SO0118 Sodium carbonate decahydrate, ExpertQ®, for analysis, ISO, Reag. Ph Eur 

assay (acidimetric) . . . . . 99,0 - 102,0 %  
 assay (acidimetric, as Na<sub>2</sub>CO<sub>3</sub>) . . . . . 36,7 - 40,0 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,001 %  
 phosphates and silicates (as SiO<sub>2</sub>) . . . . . max. 0,003 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 100 ppm  
 total nitrogen (as N) . . . . . max. 5 ppm

total sulphur (as SO<sub>4</sub>) . . . . . max. 0,003 %  
 aluminium (Al) . . . . . max. 5 ppm  
 arsenic (As) . . . . . max. 2 ppm  
 calcium (Ca) . . . . . max. 0,002 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 2 ppm  
 magnesium (Mg) . . . . . max. 2 ppm  
 potassium (K) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
SO01180500	500 g	
SO01181000	1 kg	
SO0118005P	5 kg	

## SODIUM CARBONATE, SATURATED SOLUTION

SO0123 Sodium carbonate, saturated solution 

- Na<sub>2</sub>CO<sub>3</sub>
- M = 105,99 g/mol
- CAS [497-19-8]
- EINECS-No.: 207-838-8
- EC-Index-No.: 011-005-00-2
- GHS-signal word: Warning
- GHS-H sentences: H319

- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2836 20 00 00
- Applications: laboratory reagent, analytical chemistry, photography.

composition: 210 g Na<sub>2</sub>CO<sub>3</sub> /1 liter of H<sub>2</sub>O

ART. NO.	VOLUME	CONTAINER
SO01231000	1 l	

**SODIUM CARBONATE, VOLUMETRIC SOLUTIONS**

**SO0050 Sodium carbonate, solution 0,5 mol/l (1 N)**

- Na<sub>2</sub>CO<sub>3</sub>
  - M = 105,99 g/mol
  - CAS [497-19-8]
  - EINECS-No.: 207-838-8
  - Density: 1,05 g/cm<sup>3</sup>
  - EC-Index-No.: 011-005-00-2
  - Tariff number: 2836 20 00 00
  - Applications: analytical chemistry, laboratory reagent.
- factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,05299 g Na<sub>2</sub>CO<sub>3</sub>  
This volumetric solution was checked by means of potentiometric methods using a hydrochloric acid standard solution, that was also checked against Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard.

Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO00501000	1 l	

**SO0051 Sodium carbonate, solution 0,05 mol/l (0,1 N)**

- Na<sub>2</sub>CO<sub>3</sub>
  - M = 105,99 g/mol
  - CAS [497-19-8]
  - EINECS-No.: 207-838-8
  - Density: ~ 1,1 g/cm<sup>3</sup>
  - EC-Index-No.: 011-005-00-2
  - Tariff number: 2836 20 00 00
  - Applications: analytical chemistry, laboratory reagent.
- factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,005299 g Na<sub>2</sub>CO<sub>3</sub>  
This volumetric solution was checked by means of potentiometric methods using a hydrochloric acid standard solution, that was also checked against Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard.

Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO00511000	1 l	

**SODIUM CHLORATE**

- NaClO<sub>3</sub>
  - M = 106,44 g/mol
  - CAS [7775-09-9]
  - EINECS-No.: 231-887-4
  - Solub. in water: (20 °C): soluble
  - Melting point: 255 °C (decomposes)
  - LD 50 (oral, rat): 1200 mg/kg
- EC-Index-No.: 017-005-00-9
  - ADR: 5.1 O2 II UN 1495
  - IMDG: 5.1 II UN 1495
  - IATA/ICAO: 5.1 II UN 1495
  - GHS-signal word: Danger
  - GHS-H sentences: H271 - H302 - H411
- GHS-P sentences: P221 - P283 - P210 - P306 + P360 - P371 + P380 + P375 - P501a
  - Tariff number: 2829 11 00 00
  - Applications: laboratory reagent, oxidizing , manufacture of dyes, in explosive compositions, cosmetics, herbicide, in the pharmaceuticals industry (oxidizing agent).

**SO0210 Sodium chlorate, EssentQ®**

- assay (argentometric) . . . . .min. 98 %  
chlorides (Cl) . . . . .max. 0,1 %  
sulfates (SO<sub>4</sub>) . . . . .max. 0,01 %  
heavy metals (as Pb) . . . . .max. 0,005 %  
iron (Fe) . . . . .max. 0,005 %

ART. NO.	VOLUME	CONTAINER
SO02100500	500 g	
SO02101000	1 kg	

ART. NO.	VOLUME	CONTAINER
SO0210005P	5 kg	
SO0210025P	25 kg	

**SO0213 Sodium chlorate, ExpertQ®, for analysis, ACS**

- assay (argentometric) . . . . .min. 99,0 %  
identity (IR-spectrum) . . . . .passes test  
insoluble in water . . . . .max. 0,005 %  
bromates (BrO<sub>3</sub>) . . . . .max. 0,015 %  
chlorides (Cl) . . . . .max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . .max. 0,001 %

- calcium (Ca) . . . . .max. 0,002 %  
iron (Fe) . . . . .max. 5 ppm  
heavy metals (as Pb) . . . . .max. 0,001 %  
magnesium (Mg) . . . . .max. 0,002 %  
potassium (K) . . . . .max. 0,01 %

ART. NO.	VOLUME	CONTAINER
SO02130500	500 g	
SO02131000	1 kg	

**SODIUM CHLORIDE**

- Synonyms: Salt, Common salt, Rock salt, Sea salt
  - NaCl
  - M = 58,44 g/mol
  - CAS [7647-14-5]
  - EINECS-No.: 231-598-3
- Solub. in water: (20 °C): 358 g/l
  - Melting point: 801 °C
  - Boiling point: 1461 °C
  - Vapour pressure: (865 °C) 1,3 hPa
  - LD 50 (oral, rat): 3000 mg/kg
- Tariff number: 2501 00 31 00
  - Applications: analytical chemistry, laboratory reagent, to make sodium salts, in food industry, for decreasing the melting point of water.

**SO0224 Sodium chloride, EssentQ®**

- assay (argentometric) . . . . .min. 99 %  
identity ( IR-spectrum) . . . . .passes test  
insoluble in water . . . . .max. 0,1 %  
acidity (as HCl) . . . . .max. 0,05 %  
bromides (Br) . . . . .max. 0,1 %

- sulfates (SO<sub>4</sub>) . . . . .max. 0,1 %  
ammonium (NH<sub>4</sub>) . . . . .max. 0,1 %  
potassium (K) . . . . .max. 0,2 %

ART. NO.	VOLUME	CONTAINER
SO02241000	1 kg	
SO0224005P	5 kg	
SO0224025P	25 kg	

A  
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K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## SO0225 Sodium chloride, extra pure, Pharmpur®, Ph Eur, BP, USP

assay (argentometric, on dried sample) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 acidity or alkalinity . . . . . passes test  
 bromides (Br) . . . . . max. 100 ppm  
 iodides (I) . . . . . passes test  
 nitrites (absorbance of an aqueous solution 10% at 354 nm) . . . . . max. 0,01 AU  
 ferricyanide . . . . . passes test  
 phosphates (as PO<sub>4</sub>) . . . . . max. 25 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 200 ppm

arsenic (As) . . . . . max. 1 ppm  
 barium (Ba) . . . . . passes test  
 heavy metals . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 2 ppm  
 magnesium and alkaline-earth metals (as Ca) . . . . . max. 100 ppm  
 loss on drying (105 °C, 2 h) . . . . . max. 0,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO02250500	500 g	Ⓟ
SO02251000	1 kg	Ⓟ
SO0225005P	5 kg	Ⓟ
SO0225025P	25 kg	Ⓟ

## SO0227 Sodium chloride, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay (argentometric) . . . . . min. 99,5 %  
 assay (argentometric, on dried sample) . . . . . 99,0 - 100,5 %  
 identity . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 5,0 - 8,0  
 acidity or alkalinity . . . . . passes test  
 bromides (Br) . . . . . max. 0,005 %  
 chlorates and nitrates (as NO<sub>3</sub>) . . . . . max. 0,003 %  
 ferricyanide . . . . . passes test  
 iodides (I) . . . . . passes test

phosphates (as PO<sub>4</sub>) . . . . . max. 5 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 0,4 ppm  
 barium (Ba) . . . . . passes test  
 calcium (Ca) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 2 ppm  
 heavy metals . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 1 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,005 %  
 loss on drying (105 °C, 2 h) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
SO02270500	500 g	Ⓟ
SO02271000	1 kg	Ⓟ
SO0227005P	5 kg	Ⓟ
SO0227025P	25 kg	Ⓟ

## SO0234 Sodium chloride, secondary standard for volumetric titrations, Titrasure®

assay (on dried sample) . . . . . min. 99,0 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O, 25 °C) . . . . . 5,0 - 9,0  
 bromides (Br) . . . . . max. 0,01 %  
 chlorates and nitrates (as NO<sub>3</sub>) . . . . . max. 0,003 %  
 iodides (I) . . . . . max. 0,002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 5 ppm

sulfates (SO<sub>4</sub>) . . . . . max. 0,004 %  
 barium (Ba) . . . . . passes test  
 calcium (Ca) . . . . . max. 0,002 %  
 heavy metals . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 2 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
SO02340100	100 g	Ⓟ

## SO0230 Sodium chloride, molecular biology grade

assay (argentometric) . . . . . min. 99,5 %  
 identity . . . . . passes test  
 absorbance of an aqueous solution 0,1 M in a 1 cm cell at 260 nm . . . . . max. 0,01 A

absorbance of an aqueous solution 0,1 M in a 1 cm cell at 280 nm . . . . . max. 0,01 AU  
 heavy metals . . . . . max. 0,001 %  
 DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
SO02300500	500 g	Ⓟ
SO02301000	1 kg	Ⓟ
SO0230005P	5 kg	Ⓟ

## SO0226 Sodium chloride, for climatic chambers

assay (argentometric, on dried sample) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 pH (5 %, H<sub>2</sub>O) . . . . . 5,0 - 7,5  
 acidity or alkalinity . . . . . passes test  
 hexacyanoferrate [Fe(CN)<sub>6</sub>] . . . . . max. 0,0001 %  
 nitrites (absorbance of an aqueous solution 10% at 354 nm) . . . . . max. 0,01 AU  
 ferrocyanide [Fe(CN)<sub>6</sub>] . . . . . passes test  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,0025 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,02 %  
 halides (bromides, fluorides, iodides) . . . . . max. 0,1 %  
 sodium iodide . . . . . max. 0,1 %

aluminium (Al) . . . . . max. 0,00002 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 1 ppm  
 barium (Ba) . . . . . passes test  
 calcium (Ca) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 0,3 ppm  
 heavy metals (as Pb) . . . . . max. 0,0005 %  
 iron (Fe) . . . . . max. 2 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 magnesium and alkaline-earth metals (as Ca) . . . . . max. 0,01 %  
 potassium (K) . . . . . max. 0,05 %  
 nickel (Ni) . . . . . max. 0,001 %  
 loss on drying (105 °C, 2 h) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
SO02261000	1 kg	Ⓟ
SO0226005P	5 kg	Ⓟ
SO0226025P	25 kg	Ⓟ

**SODIUM CHLORIDE, THICK SALT**

SO0228 Sodium chloride, thick salt, EssentQ®

- Synonyms: Salt, Common salt, Rock salt, Sea salt
- NaCl
- M = 58,44 g/mol
- CAS [7647-14-5]
- EINECS-No.: 231-598-3
- Solub. in water: (20 °C): 358 g/l
- Melting point: 801 °C
- Boiling point: 1461 °C
- Tariff number: 2501 00 31 00

- Applications: analytical chemistry, laboratory reagent, to make sodium salts, in food industry, for decreasing the melting point of water.

assay (argentometric) . . . . . min. 98 %

ART. NO.	VOLUME	CONTAINER
SO02280500	500 g	Ⓟ
SO02281000	1 kg	Ⓟ
SO0228005P	5 kg	Ⓟ
SO0228025P	25 kg	Ⓟ

**SODIUM CHLORIDE, SATURATED SOLUTION**

SO0233 Sodium chloride, saturated solution

- Synonyms: Salt, Common salt, Rock salt, Sea salt; saturated solution
- NaCl
- M = 58,44 g/mol
- CAS [7647-14-5]

- EINECS-No.: 231-598-3
- Tariff number: 3822 00 00 00
- Applications: laboratory reagent.

composition: 300 g NaCl /1 liter of H<sub>2</sub>O

ART. NO.	VOLUME	CONTAINER
SO02331000	1 l	Ⓟ

**SODIUM CHLORIDE, VOLUMETRIC SOLUTIONS**

SO0229 Sodium chloride, solution 0,1 mol/l (0,1 N)

- NaCl
- M = 58,44 g/mol
- CAS [7647-14-5]
- EINECS-No.: 231-598-3
- Density: 1,004 g/cm<sup>3</sup>
- Tariff number: 3822 00 00 00
- Applications: laboratory reagent.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,005844 g NaCl  
This volumetric solution was checked by means of potentiometric methods using a silver nitrate standard solution, that was also checked against Scharlau's potassium chloride volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO02291000	1 l	Ⓟ

SO0231 Sodium chloride, concentrated solution to prepare 1 l of solution 0,1 mol/l (0,1N)

- NaCl
- M = 58,44 g/mol
- CAS [7647-14-5]
- EINECS-No.: 231-598-3
- Density: 1,08 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible

- Tariff number: 3822 00 00 00
- Applications: laboratory reagent.

amount of substance: 5,844 g NaCl  
concentrated solution . . . . . 1 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
SO023100PA	u.	Ⓟ

**SODIUM CHROMATE**

SO0250 Sodium chromate, ExpertQ®, for analysis



- Na<sub>2</sub>CrO<sub>4</sub>
- M = 161,97 g/mol
- CAS [7775-11-3]
- EINECS-No.: 231-889-5
- Solub. in water: (30 °C): 873 g/l
- Melting point: ~ 792°C
- LD 50 (oral, rat): 136 mg/kg
- EC-Index-No.: 024-018-00-3
- ADR: 6.1 T5 II UN 3288
- IMDG: 6.1 II UN 3288
- IATA/ICAO: 6.1 II UN 3288
- GHS-signal word: Danger
- GHS-H sentences: H301 - H330 - H334 - H340 - H350 - H360FD - H372 - H314 - H400 - H410 - H312 - H317

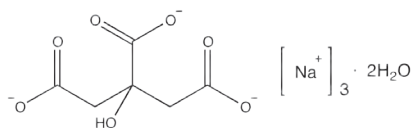
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P320 - P405 - P501a
- Tariff number: 2841 50 00 00
- Applications: analytical chemistry, laboratory reagent, in the textile industry, protection of iron against corrosion and rusting.

assay (iodometric) . . . . . min. 99,5 %  
insoluble in water . . . . . max. 0,01 %  
pH (5 %, H<sub>2</sub>O) . . . . . 8,6 - 9,8  
chlorides (Cl) . . . . . max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
aluminium (Al) . . . . . max. 0,003 %  
calcium (Ca) . . . . . max. 0,005 %  
copper (Cu) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,002 %  
lead (Pb) . . . . . max. 0,005 %  
potassium (K) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
SO02500500	500 g	Ⓟ
SO02501000	1 kg	Ⓟ



## TRI-SODIUM CITRATE DIHYDRATE







- $C_6H_5Na_3O_7 \cdot 2H_2O$
- $M = 294,10 \text{ g/mol}$
- CAS [6132-04-3]
- EINECS-No.: 200-675-3
- Solub. in water: (25 °C): 425 g/l
- Melting point: 150 °C (anhydrous substance)
- Tariff number: 2918 15 00 10

- Applications: analytical chemistry, in buffer solutions, for the analysis of: aminoacids, in food industry (E-331), emulsifier, antioxidant, preservative agent.
- Appearance: White

### SO0199 tri-Sodium citrate dihydrate, extra pure, Phampur®, Ph Eur, BP, USP

assay USP (titr. with  $HClO_4$ , referred to dried sample) ..... 99,0 - 100,5 %  
 assay EP (titr. with  $HClO_4$ , referred to dried sample) ..... 99,0 - 101,0 %  
 identification ..... passes test  
 appearance of solution ..... clear and colourless  
 acidity or alkalinity ..... passes test  
 alkalinity ..... passes test  
 chlorides (Cl) ..... max. 50 ppm  
 oxalates ( $C_2O_4$ ) ..... max. 300 ppm





sulfates ( $SO_4$ ) ..... max. 150 ppm  
 tartrates ( $C_4O_6$ ) ..... passes test  
 substances darkened by  $H_2SO_4$  ..... passes test  
 water (K.F.) ..... 11,0 - 13,0 %  
 loss on drying (180 °C, 18h) ..... 10,0 - 13,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO01990500	500 g	
SO01991000	1 kg	
SO0199005P	5 kg	
SO0199025P	25 kg	

### SO0200 tri-Sodium citrate dihydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay (titration with  $HClO_4$ ) ..... min. 99,5 %  
 assay (titr. with  $HClO_4$ , referred to dried sample) ..... 99,0 - 101,0 %  
 identity (IR-spectrum) ..... passes test  
 appearance of solution ..... clear and colourless  
 insoluble in water ..... max. 0,005 %  
 pH (5 %,  $H_2O$ ) ..... 7,5 - 9,0  
 acidity or alkalinity ..... passes test  
 chlorides (Cl) ..... max. 0,001 %  
 oxalates ( $C_2O_4$ ) ..... max. 300 ppm

phosphates (as  $PO_4$ ) ..... max. 0,002 %  
 sulfates ( $SO_4$ ) ..... max. 0,004 %  
 total nitrogen (as N) ..... max. 0,001 %  
 ammonia ( $NH_3$ ) ..... max. 0,003 %  
 calcium (Ca) ..... max. 0,005 %  
 heavy metals ..... max. 5 ppm  
 iron (Fe) ..... max. 5 ppm  
 substances darkened by  $H_2SO_4$  ..... passes test  
 water (K.F.) ..... 11,0 - 13,0 %

ART. NO.	VOLUME	CONTAINER
SO02000250	250 g	
SO02000500	500 g	
SO02001000	1 kg	
SO0200005P	5 kg	
SO0200025P	25 kg	

### SO0205 tri-Sodium citrate dihydrate, molecular biology grade

assay (titration with  $HClO_4$ ) ..... min. 99,5 %  
 identity (IR-spectrum) ..... passes test  
 absorbance of an aqueous solution  
 0,1 M in a 1 cm cell at 260 nm ..... max. 0,01 AU

absorbance of an aqueous solution  
 0,1 M in a 1 cm cell at 280 nm ..... max. 0,01 AU  
 heavy metals ..... max. 0,001 %  
 DNases, RNases, Proteases ..... non detected

ART. NO.	VOLUME	CONTAINER
SO02051000	1 kg	





## SODIUM CYANIDE

### SO0190 Sodium cyanide, EssentQ®



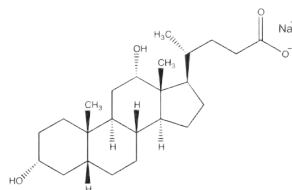
- NaCN
- $M = 49,01 \text{ g/mol}$
- CAS [143-33-9]
- EINECS-No.: 205-599-4
- Solub. in water: (20 °C): 370 g/l
- Melting point: 563 °C
- Boiling point: 1496 °C
- Vapour pressure: (50 °C) 0,1 hPa
- LD 50 (oral, rat): 6,4 mg/kg
- EC-Index-No.: 006-007-00-5
- ADR: 6.1 T5 I UN 1689
- IMDG: 6.1 I UN 1689
- IATA/ICAO: 6.1 I UN 1689
- GHS-signal word: Danger
- GHS-H sentences: H300 - H310 - H330 - H400 - H410 - EUH032
- GHS-P sentences: P260 - P284 - P320 - P361 - P405 - P501a
- Tariff number: 2837 11 00 00
- Applications: for the extraction of gold and silver from minerals, laboratory reagent, fumigant, in galvanotechnia.

assay (argentometric) ..... min. 98 %  
 insoluble in water ..... max. 0,01 %  
 chlorides (Cl) ..... max. 0,025 %  
 ferrocyanide ( $Fe(CN)_6$ ) ..... max. 0,025 %  
 phosphates (as  $PO_4$ ) ..... max. 0,01 %  
 sulfates ( $SO_4$ ) ..... max. 0,025 %  
 sulfides (S) ..... max. 0,003 %  
 sulfocyanides (SCN) ..... max. 0,05 %  
 copper (Cu) ..... max. 0,002 %  
 iron (Fe) ..... max. 0,01 %  
 lead (Pb) ..... max. 0,001 %  
 potassium (K) ..... max. 0,2 %  
 zinc (Zn) ..... max. 0,02 %

ART. NO.	VOLUME	CONTAINER
SO01900250	250 g	
SO01901000	1 kg	
SO0190005P	5 kg	
SO0190025P	25 kg	

## SODIUM DEOXYCHOLATE

SO0257 Sodium deoxycholate, for microbiology



- Synonyms: Desoxycholic acid, sodium salt, 3 $\alpha$ ,12 $\alpha$ -Dihydroxy-5 $\beta$ -cholanic acid, sodium salt
- C<sub>24</sub>H<sub>39</sub>NaO<sub>4</sub>
- M = 414,55 g/mol
- CAS [302-95-4]
- EINECS-No.: 206-132-7
- Melting point: 357 - 365 °C
- LD 50 (oral, rat): 1370 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2918 19 30 00

assay (HPLC) . . . . . min. 98 %  
sodium cholate . . . . . max. 2 %  
pH (2 %, H<sub>2</sub>O) . . . . . 7,5 - 9,5  
heavy metals (as Pb) . . . . . max. 0,002 %  
loss on drying (105 °C) . . . . . max. 5 %  
suitability for microbiology . . . . . passes test

ART. NO.	VOLUME	CONTAINER
SO02570100	100 g	Ⓟ
SO02570500	500 g	Ⓟ
SO02571000	1 kg	Ⓟ

## SODIUM DICHROMATE DIHYDRATE

SO0260 Sodium dichromate dihydrate, ExpertQ®, for analysis, ACS



- Synonyms: Sodium bichromate, Sodium pyrochromate
- Na<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>·2H<sub>2</sub>O
- M = 298,00 g/mol
- CAS [7789-12-0]
- EINECS-No.: 234-190-3
- Solub. in water: (20 °C): 731,8 g/l
- Melting point: 356,7 °C (anhydrous substance)
- Boiling point: 400 °C (decomposes)
- LD 50 (oral, rat): 50 mg/kg
- EC-Index-No.: 024-004-01-4
- ADR: 6.1 T5 III UN 3288
- IMDG: 6.1 III UN 3288
- IATA/ICAO: 6.1 III UN 3288
- GHS-signal word: Danger
- GHS-H sentences: H272 - H301 - H330 - H334 - H340 - H350 - H360FD - H372 - H314 - H400 - H410 - H312 - H317

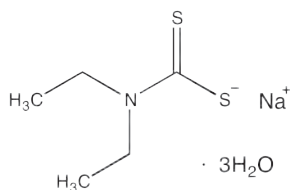
- GHS-P sentences: P221 - P303 + P361 + P533 - P305 + P351 + P338 - P320 - P405 - P501a
- Tariff number: 2841 30 00 00
- Applications: analytical chemistry, laboratory reagent, oxidizing agent (manufacture of dyes), starting material for synthesis of chromic acid and other chromates.
- Appearance: Orange solid

assay (iodometric) . . . . . 99,5 - 100,5 %  
identity . . . . . passes test  
insoluble in water . . . . . max. 0,005 %  
ammonium hydroxide precipitate . . . . . max. 0,005 %  
chlorides (Cl) . . . . . max. 0,002 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
aluminium (Al) . . . . . max. 0,002 %  
calcium (Ca) . . . . . max. 0,002 %  
copper (Cu) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,002 %  
lead (Pb) . . . . . max. 0,002 %  
magnesium (Mg) . . . . . max. 0,005 %  
potassium (K) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
SO02600500	500 g	Ⓟ
SO02601000	1 kg	Ⓟ
SO0260005P	5 kg	Ⓟ

## SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE

SO0270 Sodium diethyldithiocarbamate trihydrate, ExpertQ®, for analysis, ACS



- Synonyms: Diethyldithiocarbamic acid sodium salt trihydrate
- C<sub>6</sub>H<sub>10</sub>NNaS<sub>2</sub>·3H<sub>2</sub>O
- M = 225,31 g/mol
- CAS [20624-25-3]
- EINECS-No.: 205-710-6
- Solub. in water: (20 °C): 600 g/l
- Melting point: - 93 °C
- LD 50 (oral, rat): 1500 mg/kg (anhydrous substance)
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2930 20 00 00
- Applications: analytical chemistry, laboratory reagent (noble metals), precipitant for: metal ions traces.

assay (titration with HClO<sub>4</sub>) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
solubility in water . . . . . passes test  
iron (Fe) . . . . . max. 1 ppm  
sodium (as Na<sub>2</sub>SO<sub>4</sub>) . . . . . 30,5 - 32,5 %  
sensitivity as reagent for copper . . . . . passes test

ART. NO.	VOLUME	CONTAINER
SO02700100	100 g	Ⓟ
SO02700250	250 g	Ⓟ

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## SODIUM DIHYDROGEN PHOSPHATE ANHYDROUS

SO0330 Sodium dihydrogen phosphate anhydrous, extra pure, Pharmapur®, BP, USP

- Synonyms: Sodium biphosphate, Sodium phosphate monobasic
- $\text{NaH}_2\text{PO}_4$
- M = 120,0 g/mol
- CAS [7558-80-7]
- EINECS-No.: 231-449-2
- Solub. in water: (20 °C): 850 g/l
- Melting point: 200 °C
- LD 50 (oral, rat): 8290 mg/kg
- Tariff number: 2835 22 00 00
- Applications: analytical chemistry, laboratory reagent, in food industry (E 339), in pharma industry.

assay (acidimetric, referred to dried sample) . . . . . 98,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble in water. . . . . max. 0,2 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 4,1 - 4,5  
 chlorides (Cl) . . . . . max. 0,014 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 300 ppm  
 aluminium, calcium and related elements. . . passes test  
 arsenic (As) . . . . . max. 2 ppm  
 iron (Fe) . . . . . max. 10 ppm  
 reducing substances. . . . . passes test  
 loss on drying (130 °C). . . . . max. 1,0 %  
 water (K.F.) . . . . . max. 2,0 %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.

Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO03300500	500 g	
SO03301000	1 kg	
SO0330025P	25 kg	

## SODIUM DIHYDROGEN PHOSPHATE DIHYDRATE

- Synonyms: Sodium biphosphate, Monosodium orthophosphate, Primary sodium phosphate, Sodium phosphate monobasic
- $\text{NaH}_2\text{PO}_4 \cdot 2\text{H}_2\text{O}$
- M = 156,01 g/mol





- CAS [13472-35-0]
- EINECS-No.: 231-449-2
- Solub. in water: (20 °C): 850 g/l
- Melting point: 60 °C
- LD 50 (oral, rat): 8290 mg/kg (anhydrous substance)

- Tariff number: 2835 22 00 00
- Applications: analytical chemistry, laboratory reagent, for pharmaceutical use, in food industry (E 339).

SO0334 Sodium dihydrogen phosphate dihydrate, extra pure, Pharmapur®, Ph Eur, BP, USP

assay (acidimetric, referred to dried sample) . . . . . 98,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble matter. . . . . max. 0,2 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 4,2 - 4,5  
 chlorides (Cl) . . . . . max. 0,014 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 300 ppm  
 aluminium, calcium and related elements . . . . . passes test





arsenic (As) . . . . . max. 2 ppm  
 iron (Fe) . . . . . max. 10 ppm  
 reducing substances. . . . . passes test  
 loss on drying (130 °C). . . . . 21,5 - 24,0 %  
 water content. . . . . 18,0 - 26,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO03340500	500 g	
SO03341000	1 kg	
SO0334005P	5 kg	
SO0334025P	25 kg	

SO0332 Sodium dihydrogen phosphate dihydrate, ExpertQ®, for analysis, Reag. Ph Eur

appearance of solution . . . . . clear and colourless  
 identity. . . . . passes test  
 assay (acidimetric, referred to dried sample) . . . . . 98,0 - 100,5 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 4,2 - 4,5  
 arsenic (As) . . . . . max. 0,0001 %  
 cadmium (Cd) . . . . . max. 1 ppm  
 calcium (Ca) . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 cobalt (Co) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,005 %  
 fluorides (F) . . . . . max. 0,0010 %

heavy metals (as Pb) . . . . . max. 0,0010 %  
 insoluble matter. . . . . max. 0,2 %  
 iron (Fe) . . . . . max. 0,001 %  
 lead (Pb). . . . . max. 0,0001 %  
 loss on drying (130 °C). . . . . 21,5 - 24,0 %  
 magnesium (Mg) . . . . . max. 0,005 %  
 mercury (Hg) . . . . . max. 1 ppm  
 nickel (Ni) . . . . . max. 0,005 %  
 potassium (K) . . . . . max. 0,005 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,01 %  
 zinc (Zn) . . . . . max. 0,025 %  
 reducing substances. . . . . passes test

ART. NO.	VOLUME	CONTAINER
SO03320500	500 g	
SO03321000	1 kg	
SO0332005P	5 kg	
SO0332025P	25 kg	

## SODIUM DIHYDROGEN PHOSPHATE MONOHYDRATE

- Synonyms: Sodium biphosphate, Monosodium orthophosphate, Primary sodium phosphate, Sodium phosphate monobasic
- $\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$
- M = 137,99 g/mol

- CAS [10049-21-5]
- EINECS-No.: 231-449-2
- Solub. in water: (20 °C): 850 g/l
- Melting point: ~ 100 °C (decomposes)
- LD 50 (oral, rat): 8290 mg/kg (anhydrous substance)

- Tariff number: 2835 22 00 00
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products, for pharmaceutical use, for softening water, in food industry (E 339).

**SO0333 Sodium dihydrogen phosphate monohydrate, extra pure, Phampur®, BP, USP**

assay (acidimetric, referred to dried sample) . . . . . 98,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,2 %  
 acidity . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,1 - 4,5  
 chlorides (Cl) . . . . . max. 0,014 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 300 ppm

aluminium, calcium and related elements . . . . . passes test  
 arsenic (As) . . . . . max. 2 ppm  
 iron (Fe) . . . . . max. 10 ppm  
 reducing substances . . . . . passes test  
 water content . . . . . 10,0 - 15 %  
 loss on drying (130 °C) . . . . . 11,5 - 14,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO03330500	500 g	Ⓟ
SO03331000	1 kg	Ⓟ
SO0333005P	5 kg	Ⓟ

**SO0331 Sodium dihydrogen phosphate monohydrate, ExpertQ®, for analysis, ACS**

assay (acidimetric) . . . . . 99,0 - 102,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,1 - 4,5  
 chlorides (Cl) . . . . . max. 5 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %  
 calcium (Ca) . . . . . max. 0,005 %

heavy metals . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
SO03310250	250 g	Ⓟ
SO03310500	500 g	Ⓟ
SO03311000	1 kg	Ⓟ
SO0331005P	5 kg	Ⓟ

**SO0328 Sodium dihydrogen phosphate monohydrate, molecular biology grade**

assay (acidimetric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 absorbance of an aqueous solution 0,1 M in a 1 cm cell at 260 nm . . . . . max. 0,01 AU

absorbance of an aqueous solution 0,1 M in a 1 cm cell at 280 nm . . . . . max. 0,01 AU  
 chlorides (Cl) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
SO03280250	250 g	Ⓟ

**SODIUM DISULFITE**

- Synonyms: Sodium metabisulfite, Sodium pyrosulfite
- Na<sub>2</sub>S<sub>2</sub>O<sub>5</sub>
- M = 190,10 g/mol
- CAS [7681-57-4]
- EINECS-No.: 231-673-0
- Solub. in water: (20 °C): ~ 650 g/l

- Melting point: ~ 150 °C (decomposes)
- LD 50 (oral, rat): 1540 mg/kg
- GHS-signal word: Danger
- GHS-H sentences: H318 - H302 - EUH031
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P330 - P501a

- Tariff number: 2832 10 00 00
- Applications: analytical chemistry, laboratory reagent, bleaching agent, reducing agent (manufacture of dyes), antioxidant (in the pharmaceuticals industry), in food industry (E 223), preservative agent.

**SO0289 Sodium disulfite, extra pure, Phampur®, Ph Eur, BP, NF**



assay (iodometric) . . . . . 95,0 - 100,5 %  
 assay (iodometric, as SO<sub>2</sub>) . . . . . 65,0 - 67,4 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 pH (5 %, H<sub>2</sub>O) . . . . . 3,5 - 5,0  
 chlorides (Cl) . . . . . max. 0,05 %  
 thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . max. 0,05 %

thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . passes test  
 arsenic (As) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 20 ppm  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO02890500	500 g	Ⓟ
SO02891000	1 kg	Ⓟ
SO0289005P	5 kg	Ⓟ
SO0289025P	25 kg	Ⓟ

**SO0290 Sodium disulfite, ExpertQ®, for analysis, ACS, Reag. Ph Eur**



assay (iodometric) . . . . . 97,0 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 3,5 - 5,0  
 chlorides (Cl) . . . . . max. 0,005 %

thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . max. 0,05 %  
 thiosulfates (S<sub>2</sub>O<sub>4</sub>) . . . . . passes test  
 arsenic (As) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 5 ppm

ART. NO.	VOLUME	CONTAINER
SO02900500	500 g	Ⓟ
SO02901000	1 kg	Ⓟ

**SODIUM FLUORIDE**

- Synonyms: Chemifluor, Ossalin, Ossin, Zymafluor
- NaF
- M = 41,99 g/mol
- CAS [7681-49-4]
- EINECS-No.: 231-667-8
- Solub. in water: (20 °C): 42 g/l
- Melting point: 996 °C
- Boiling point: 1695 °C

- Vapour pressure: (1077 °C) 1 hPa
- LD 50 (oral, rat): 52 mg/kg
- EC-Index-No.: 009-004-00-7
- ADR: 6.1 T5 III UN 1690
- IMDG: 6.1 III UN 1690
- IATA/ICAO: 6.1 III UN 1690
- GHS-signal word: Danger
- GHS-H sentences: H301 - H315 - H319 - EUH032

- GHS-P sentences: P270 - P280 - P305 + P351 + P338 - P321 - P362 - P405 - P501a
- Tariff number: 2826 19 10 00
- Applications: analytical chemistry, laboratory reagent, in the production of enamels, insecticide, in fluoridation of drinking water.
- Appearance: White

## SO0355 Sodium fluoride, extra pure, Pharmapur®, Ph Eur, BP, USP



assay (complexometric, on dried sample) . . . . . 98,5 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 acidity or alkalinity . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,012 %  
 fluorosilicates . . . . . passes test

sulfates (SO<sub>4</sub>) . . . . . max. 200 ppm  
 loss on drying (130 °C) . . . . . max. 0,5 %  
 loss on drying (150 °C) . . . . . max. 1,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO03551000	1 kg	
SO0355005P	5 kg	

## SO0323 Sodium fluoride, ExpertQ®, for analysis, ACS, ISO

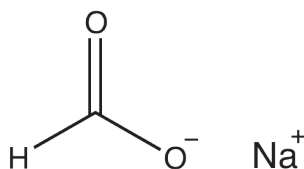


assay (complexometric) . . . . . min. 99 %  
 insoluble in water . . . . . max. 0,01 %  
 acidity . . . . . max. 0,03 meq/g  
 alkalinity . . . . . max. 0,01 meq/g  
 chlorides (Cl) . . . . . max. 0,003 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,0005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 sulfites (SO<sub>3</sub>) . . . . . max. 0,005 %

sodium fluorosilicate (Na<sub>2</sub>SIF<sub>6</sub>) . . . . . max. 0,1 %  
 copper (Cu) . . . . . max. 0,0005 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,02 %  
 loss on drying (150 °C) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
SO03230500	500 g	
SO03231000	1 kg	
SO0323005P	5 kg	
SO0323025P	25 kg	

## SODIUM FORMATE



- Synonyms: Formic acid sodium salt
- NaOOCH
- M = 68,01 g/mol
- CAS [141-53-7]
- EINECS-No.: 205-488-0
- Solub. in water: (20 °C): 820 g/l
- Melting point: 255 °C
- LD 50 (oral, rat): 11200 mg/kg
- GHS-signal word: Warning

- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2915 12 00 00
- Applications: analytical chemistry, laboratory reagent, solvents, chromatography, precipitant for: noble metals, for extraction of phosphates in soil samples, synthesis of organic products.

## SO0324 Sodium formate, EssentQ®



assay (iodometric) . . . . . min. 98 %  
 insoluble in water . . . . . max. 0,025 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 7,0 - 8,5  
 acidity (as HCOOH) . . . . . max. 0,1 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,01 %

sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,002 %  
 nickel (Ni) . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
SO03240500	500 g	

## SO0326 Sodium formate, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (iodometric) . . . . . min. 99 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 7,0 - 8,5  
 acidity (as HCOOH) . . . . . max. 0,05 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %

sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,001 %  
 loss on drying (150 °C) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
SO0326005P	5 kg	

## SO0325 Sodium formate, HPLC grade



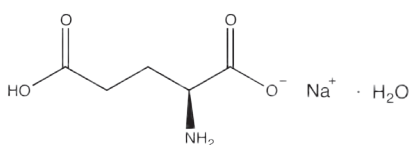
assay (iodometric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble matter . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 7,0 - 8,5  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm

max. absorbance of an aqueous sol. 10 % in a 1,0 cm cell at wavelength  
 absorbance  
 260 nm . . . . . 0,05 AU  
 270 nm . . . . . 0,04 AU  
 300 nm . . . . . 0,03 AU  
 330 nm . . . . . 0,02 AU

ART. NO.	VOLUME	CONTAINER
SO03250250	250 g	

## SODIUM L-GLUTAMATE MONOHYDRATE

SO0400 Sodium L-glutamate monohydrate, extra pure, Pharpur®, NF



- $C_5H_9NNaO_4 \cdot H_2O$
- $M = 187,13 \text{ g/mol}$
- CAS [6106-04-3]
- EINECS-No.: 205-538-1
- Solub. in water: (20 °C): ~ 600 g/l
- Melting point: 225 - 240 °C
- Flash pt. > 900 °C
- LD 50 (oral, rat): 15800 mg/kg
- Tariff number: 2922 42 00 10
- Applications: in food industry (E 621).

assay (titration with  $HClO_4$ ) ..... 99,0 - 100,5 %  
 identification ..... passes test  
 appearance of solution ..... passes test  
 pH (5 %,  $H_2O$ ) ..... 6,7 - 7,2  
 specific rotation ( $[\alpha]_{25}^{20}$ ,  $c = 10$ , HCl  
 2 mol/l, on dried sample) ..... + 24,8° - + 25,3°  
 chlorides (Cl) ..... max. 0,25 %  
 lead (Pb) ..... max. 10 ppm  
 loss on drying (100 °C) ..... max. 0,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO04000500	500 g	
SO04001000	1 kg	
SO0400025P	25 kg	

## SODIUM HEXAMETAPHOSPHATE

SO0415 Sodium hexametaphosphate, EssentQ®

- Synonyms: Sodium polyphosphate, Graham's salt
- $Na_6(NaPO_3)_6 \cdot ONa$
- CAS [68915-31-1]
- EINECS-No.: 272-808-3
- Solub. in water: (20 °C): soluble
- Melting point: 628 °C
- LD 50 (oral, rat): 5000 mg/kg
- Tariff number: 2835 39 00 00
- Applications: dentifrices, polishing agent, detergent (abrasive).

assay (acidimetric, as  $P_2O_5$ ) ..... 65 - 70 %  
 insoluble in water ..... max. 0,01 %  
 chlorides (Cl) ..... max. 0,03 %  
 sulfates ( $SO_4$ ) ..... max. 0,1 %  
 arsenic (As) ..... max. 2 ppm  
 iron (Fe) ..... max. 0,01 %  
 copper (Cu) ..... max. 0,0025 %  
 lead (Pb) ..... max. 0,0025 %  
 nickel (Ni) ..... max. 0,0025 %

ART. NO.	VOLUME	CONTAINER
SO04150500	500 g	
SO04151000	1 kg	

## SODIUM HEXANITROCOBALTATE(III)

SO0240 Sodium hexanitrocobaltate(III), ExpertQ®, for analysis, ACS, Reag. Ph Eur



- Synonyms: Sodium cobaltnitrite, Cobalt(III) sodium nitrite
- $Na_3[Co(NO_2)_6]$
- $M = 403,94 \text{ g/mol}$
- CAS [13600-98-1]
- EINECS-No.: 237-077-7
- Solub. in water: (20 °C): 720 g/l
- ADR: 5.1 O2 III UN 1479
- IMDG: 5.1 III UN 1479
- IATA/ICAO: 5.1 III UN 1479
- GHS-signal word: Danger

- GHS-H sentences: H272 - H350
- GHS-P sentences: P221 - P210 - P220 - P280 - P405 - P501a
- Tariff number: 2842 90 90 00
- Applications: analytical chemistry, laboratory reagent, for the detection of: potassium.
- Appearance: Yellowish to brown powder

identity (IR-spectrum) ..... passes test  
 insoluble matter ..... max. 0,02 %  
 chlorides (Cl) ..... max. 0,005 %  
 sulfates ( $SO_4$ ) ..... max. 0,01 %  
 iron (Fe) ..... max. 0,002 %  
 suitability for determination of K ..... passes test

ART. NO.	VOLUME	CONTAINER
SO02400025	25 g	
SO02400100	100 g	

## SODIUM HYDROGEN CARBONATE

- Synonyms: Sodium bicarbonate
- $NaHCO_3$
- $M = 84,01 \text{ g/mol}$
- CAS [144-55-8]
- EINECS-No.: 205-633-8

- Solub. in water: (20 °C): 95,5 g/l
- Melting point: 270 °C (decomposes)
- Vapour pressure: (30 °C) 8,3 hPa
- LD 50 (oral, rat): 4220 mg/kg
- Tariff number: 2836 30 00 00

- Applications: analytical chemistry, laboratory reagent, to make sodium salts, for laboratory glassware cleaning, source of  $CO_2$ , in fire extinguishers, in food industry (E-500).

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Z



## SO0128 Sodium hydrogen carbonate, EssentQ®

assay (acidimetric) ..... min. 99 %  
 pH (5 %, H<sub>2</sub>O) ..... max. 8,6  
 carbonates (CO<sub>3</sub>) ..... passes test  
 chlorides (Cl) ..... max. 0,01 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,01 %  
 total nitrogen (as N) ..... max. 0,003 %  
 aluminium (Al) ..... max. 0,5 ppm





arsenic (As) ..... max. 2 ppm  
 calcium (Ca) ..... max. 0,01 %  
 copper (Cu) ..... max. 0,001 %  
 iron (Fe) ..... max. 0,001 %  
 lead (Pb) ..... max. 5 ppm  
 zinc (Zn) ..... max. 0,001 %  
 loss on drying (silica gel) ..... max. 0,2 %

ART. NO.	VOLUME	CONTAINER
SO0128005P	5 kg	
SO0128025P	25 kg	

## SO0129 Sodium hydrogen carbonate, extra pure, Pharmpur®, Ph Eur, BP, USP

assay (acidimetric, on dried sample) ..... 99,0 - 100,5 %  
 identification ..... passes test  
 appearance of solution ..... clear and colourless  
 insoluble matter ..... passes test  
 normal carbonate ..... passes test  
 chlorides (Cl) ..... max. 0,015 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,015 %  
 ammonium (NH<sub>4</sub>) ..... max. 0,002 %  
 aluminium (Al) ..... max. 2 ppm  
 arsenic (As) ..... max. 2 ppm





calcium (Ca) ..... max. 0,01 %  
 copper (Cu) ..... max. 1 ppm  
 heavy metals (as Pb) ..... max. 0,001 %  
 iron (Fe) ..... max. 0,002 %  
 magnesium (Mg) ..... max. 0,004 %  
 organic impurities ..... max. 0,01 %  
 loss on drying (silica gel) ..... max. 0,25 %  
 Residual solvents are analysed according to  
 guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO01290500	500 g	
SO01291000	1 kg	
SO0129005P	5 kg	
SO0129025P	25 kg	

## SO0131 Sodium hydrogen carbonate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay (acidimetric, on dried sample) ..... 99,7 - 100,3 %  
 identity ..... passes test  
 appearance of solution ..... passes test  
 insoluble in water ..... max. 0,015 %  
 pH (5 %, H<sub>2</sub>O) ..... max. 8,6  
 chlorides (Cl) ..... max. 0,002 %  
 phosphates (as PO<sub>4</sub>) ..... max. 0,001 %  
 phosphates and silicates (as SiO<sub>2</sub>) ..... max. 0,005 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,015 %  
 total nitrogen (as N) ..... max. 0,0005 %  
 ammonium (NH<sub>4</sub>) ..... max. 0,0005 %  
 arsenic (As) ..... max. 2 ppm

calcium (Ca) ..... max. 0,01 %  
 copper (Cu) ..... max. 2 ppm  
 heavy metals (as Pb) ..... max. 5 ppm  
 iron (Fe) ..... max. 5 ppm  
 lead (Pb) ..... max. 5 ppm  
 magnesium (Mg) ..... max. 0,005 %  
 potassium (K) ..... max. 0,005 %  
 zinc (Zn) ..... max. 5 ppm  
 sulphur compounds (as SO<sub>2</sub>) ..... max. 0,003 %  
 substances reducing iodine ..... max. 0,0065 %  
 loss on drying (silica gel) ..... max. 0,2 %

ART. NO.	VOLUME	CONTAINER
SO01310500	500 g	
SO01311000	1 kg	
SO0131005P	5 kg	
SO0131025P	25 kg	

## SO0130 Sodium hydrogen carbonate, HPLC grade

assay (acidimetric) ..... min. 99,5 %  
 identity (IR-spectrum) ..... passes test  
 insoluble matter ..... passes test

max. absorbance of an aqueous sol. 10% in a 1,0 cm  
 cell at wavelength absorbance  
 240 nm ..... 0,1 AU  
 250 nm ..... 0,04 AU  
 260 nm ..... 0,02 AU  
 280 nm ..... 0,01 AU

ART. NO.	VOLUME	CONTAINER
SO01300250	250 g	

## SODIUM HYDROGEN CARBONATE, SATURATED SOLUTION

## SO0133 Sodium hydrogen carbonate, saturated solution

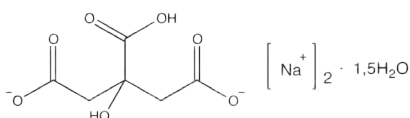
- NaHCO<sub>3</sub>
- M = 84,01 g/mol
- CAS [144-55-8]
- EINECS-No.: 205-633-8
- Density: 1,05 g/cm<sup>3</sup>

- LD 50 (oral, rat): 4220 mg/kg (anhydrous substance)
- Tariff number: 2836 30 00 00
- Applications: analytical chemistry, laboratory reagent.

composition: 80 g NaHCO<sub>3</sub>/1 liter of H<sub>2</sub>O

ART. NO.	VOLUME	CONTAINER
SO01331000	1 l	

## DI-SODIUM HYDROGEN CITRATE 1,5-HYDRATE



- C<sub>6</sub>H<sub>5</sub>Na<sub>2</sub>O<sub>7</sub>·1,5H<sub>2</sub>O
- M = 283,11 g/mol
- CAS [6132-05-4]
- EINECS-No.: 205-623-3
- Melting point: 149 °C
- Tariff number: 2918 15 00 90
- Applications: for pharmaceutical use (anticoagulant).

## SO0350 di-Sodium hydrogen citrate 1,5-hydrate, extra pure, Pharmapur®, BP

assay (titration with HClO<sub>4</sub>) . . . . . 98,0 - 104,0 %  
 identification . . . . . passes test  
 pH (3 %, H<sub>2</sub>O) . . . . . 4,9 - 5,2  
 chlorides (Cl) . . . . . max. 330 ppm  
 oxalates (C<sub>2</sub>O<sub>4</sub>) . . . . . max. 150 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,12 %

arsenic (As) . . . . . max. 2 ppm  
 readily carbonizable substances . . . . . passes test  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO03501000	1 kg	

## SO0349 di-Sodium hydrogen citrate 1,5-hydrate, ExpertQ®, for analysis, Reag. Ph Eur

assay (titration with HClO<sub>4</sub>) . . . . . 98 - 104 %  
 identity (IR-spectrum) . . . . . passes test  
 pH (3 %, H<sub>2</sub>O) . . . . . 4,9 - 5,2  
 chlorides (Cl) . . . . . max. 0,033 %  
 oxalates (C<sub>2</sub>O<sub>4</sub>) . . . . . max. 0,01 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,12 %

arsenic (As) . . . . . max. 1 ppm  
 heavy metals (as Pb) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 5 ppm  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 water (K.F.) . . . . . max. 13 %

ART. NO.	VOLUME	CONTAINER
SO03490500	500 g	
SO03491000	1 kg	
SO0349005P	5 kg	

## DI-SODIUM HYDROGEN PHOSPHATE ANHYDROUS

- Synonyms: Disodium hydrogen phosphate, Sodium phosphate dibasic
- Na<sub>2</sub>HPO<sub>4</sub>
- M = 141,96 g/mol





- CAS [7558-79-4]
- EINECS-No.: 231-448-7
- Solub. in water: (20 °C): 77 g/l
- Melting point: ~ 250 °C (decomposes)

- LD 50 (oral, rat): 17000 mg/kg
- Tariff number: 2835 22 00 00
- Applications: analytical chemistry, in buffer solutions.

## SO0335 di-Sodium hydrogen phosphate anhydrous, extra pure, Pharmapur®, Ph Eur, BP, USP

assay USP (acidimetric, referred to dried sample) . . . . . 98,0 - 100,5 %  
 assay EP (acidimetric, referred to dried sample) . . . . . 98,0 - 101,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,01 %  
 chlorides (Cl) (EP) . . . . . max. 200 ppm  
 sulfates (SO<sub>4</sub>) (EP) . . . . . max. 500 ppm  
 chlorides and sulfates (USP) . . . . . max. 0,2 %



sodium dihydrogenphosphate (NaH<sub>2</sub>PO<sub>4</sub>) . . . . . max. 2,5 %  
 arsenic (As) (EP) . . . . . max. 2 ppm  
 arsenic (As) (USP) . . . . . max. 16 ppm  
 iron (Fe) . . . . . max. 20 ppm  
 reducing substances . . . . . passes test  
 loss on drying (105 °C, 4h) . . . . . max. 1,0 %  
 loss on drying (130 °C) . . . . . max. 5,0 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.

ART. NO.	VOLUME	CONTAINER
SO03350500	500 g	
SO03351000	1 kg	
SO0335005P	5 kg	
SO0335025P	25 kg	

## SO0337 di-Sodium hydrogen phosphate anhydrous, ExpertQ®, for analysis, ACS, Reag. Ph Eur

assay (acidimetric) . . . . . min. 99,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 8,7 - 9,3  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 3 ppm

heavy metals . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,001 %  
 loss on drying (105 °C) . . . . . max. 0,2 %  
 potassium (K) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
SO03370500	500 g	
SO03371000	1 kg	
SO0337005P	5 kg	
SO0337025P	25 kg	

## SO0329 di-Sodium hydrogen phosphate anhydrous, molecular biology grade

assay (acidimetric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 absorbance of an aqueous solution 0,1 M in a 1 cm cell at 260 nm . . . . . max. 0,05 AU  
 absorbance of an aqueous solution

0,1 M in a 1 cm cell at 280 nm . . . . . max. 0,05 AU  
 chlorides (Cl) . . . . . max. 0,005 %  
 heavy metals . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,005 %  
 DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
SO03290250	250 g	
SO03291000	1 kg	

## DI-SODIUM HYDROGEN PHOSPHATE DIHYDRATE

- Synonyms: Sodium monohydrogen phosphate, Sodium phosphate dibasic
- Na<sub>2</sub>HPO<sub>4</sub>·2H<sub>2</sub>O
- M = 177,99 g/mol
- CAS [10028-24-7]

- EINECS-No.: 231-448-7
- Solub. in water: (20 °C): 93 g/l
- Melting point: 92,5 °C (release of crystalline water)
- LD 50 (oral, rat): 17000 mg/kg (anhydrous substance)

- Tariff number: 2835 22 00 00
- Applications: analytical chemistry, in buffer solutions (phosphates).

## SO0338 di-Sodium hydrogen phosphate dihydrate, extra pure, Pharpur®, Ph Eur, BP, USP

assay (acidimetric, referred to dried sample) . . . . . 98,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,4 %  
 arsenic (As) . . . . . max. 4 ppm  
 chlorides (Cl) . . . . . max. 400 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,1 %

iron (Fe) . . . . . max. 40 ppm  
 monosodium phosphate . . . . . max. 2,5 %  
 reducing substances . . . . . passes test  
 loss on drying (130 °C) . . . . . 19,5 - 21,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO03380500	500 g	Ⓟ
SO03381000	1 kg	Ⓟ
SO0338005P	5 kg	Ⓟ
SO0338025P	25 kg	Ⓟ

## SO0339 di-Sodium hydrogen phosphate dihydrate, ExpertQ®, for analysis, Reag. Ph Eur

assay (acidimetric, referred to dried sample) . . . . . 99,5 - 101,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 pH (5 %, H<sub>2</sub>O) . . . . . 9,0 - 9,2  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 0,0004 %

copper (Cu) . . . . . max. 3 ppm  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,0001 %  
 monosodium phosphate . . . . . max. 2,5 %  
 reducing substances . . . . . passes test  
 loss on drying (130 °C) . . . . . 19,5 - 21,0 %

ART. NO.	VOLUME	CONTAINER
SO03390500	500 g	Ⓟ
SO03391000	1 kg	Ⓟ
SO0339005P	5 kg	Ⓟ

## SO0345 di-Sodium hydrogen phosphate dihydrate, HPLC grade

assay (acidimetric, referred to dried sample) . . . . . min. 99,5 %  
 identity (IR) . . . . . passes test  
 insoluble in water . . . . . max. 0,4 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 9,0 - 9,2

max. absorbance of an aqueous sol. 10 % in a 1,0 cm cell at wavelength absorbance  
 230 nm . . . . . 0,1 AU  
 260 nm . . . . . 0,06 AU  
 280 nm . . . . . 0,04 AU  
 320 nm . . . . . 0,02 AU

ART. NO.	VOLUME	CONTAINER
SO03450250	250 g	Ⓟ

## DI-SODIUM HYDROGEN PHOSPHATE DODECAHYDRATE

- Synonyms: Sodium monohydrogen phosphate, Sodium phosphate dibasic
- Na<sub>2</sub>HPO<sub>4</sub>·12H<sub>2</sub>O
- M = 358,14 g/mol
- CAS [10039-32-4]

- EINECS-No.: 231-448-7
- Solub. in water: (20 °C): ~ 218 g/l
- Melting point: 35 °C
- LD 50 (oral, rat): 17000 mg/kg (anhydrous substance)

- Tariff number: 2835 22 00 00
- Applications: analytical chemistry, in buffer solutions (phosphates), in porcelain industry, cosmetics,
- pharmaceutical and food industries, in pharma industry.

## SO0336 di-Sodium hydrogen phosphate dodecahydrate, extra pure, Pharpur®, Ph Eur, BP

assay (acidimetric) . . . . . 98,5 - 102,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 insoluble in water . . . . . max. 0,15 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 sodium dihydrogenphosphate (NaH<sub>2</sub>PO<sub>4</sub>) . . . . . max. 2,5 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 arsenic (As) . . . . . max. 1 ppm

heavy metals (as Pb) . . . . . max. 0,0008 %  
 iron (Fe) . . . . . max. 0,001 %  
 reducing substances . . . . . passes test  
 water (K.F.) . . . . . 57 - 61 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013

ART. NO.	VOLUME	CONTAINER
SO03360500	500 g	Ⓟ
SO03361000	1 kg	Ⓟ
SO0336005P	5 kg	Ⓟ
SO0336025P	25 kg	Ⓟ

## SO0343 di-Sodium hydrogen phosphate dodecahydrate, ExpertQ®, for analysis, ISO

assay (acidimetric) . . . . . 99 - 102 %  
 identity . . . . . passes test  
 appearance of solution . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 9,0 - 9,4  
 chlorides (Cl) . . . . . max. 0,0005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 0,5 ppm

copper (Cu) . . . . . max. 2 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,005 %  
 sodium dihydrogen phosphate . . . . . passes test  
 reducing substances . . . . . passes test  
 water (K.F.) . . . . . 57 - 61 %

ART. NO.	VOLUME	CONTAINER
SO03430500	500 g	Ⓟ
SO03431000	1 kg	Ⓟ
SO0343005P	5 kg	Ⓟ

## SODIUM HYDROGEN SELENITE

SO0160 Sodium hydrogen selenite, for microbiology



- Synonyms: Sodium biselenite
- NaHSeO<sub>3</sub>
- M = 150,95 g/mol
- CAS [7782-82-3]
- EINECS-No.: 231-966-3
- Solub. in water: (20 °C): 580 g/l
- LD 50 (oral, rat): 2,5 mg/kg
- EC-Index-No.: 034-002-00-8
- ADR: 6.1 T5 I UN 2630
- IMDG: 6.1 I UN 2630
- IATA/ICAO: 6.1 I UN 2630
- GHS-signal word: Danger
- GHS-H sentences: H301 - H331 - H373 - H400 - H410
- GHS-P sentences: P260 - P261 - P321 - P304 + P340 - P405 - P501a
- Tariff number: 2842 90 10

total selenium . . . . . approx. 51,3 %  
total metallic impurities . . . . . max. 0,02 %  
loss on drying (105 °C). . . . . max. 0,5 %  
suitability for microbiology. . . . . passes test

ART. NO.	VOLUME	CONTAINER
SO01600100	100 g	

## SODIUM HYDROGEN SULFATE ANHYDROUS

SO0150 Sodium hydrogen sulfate anhydrous, EssentQ®



- Synonyms: Sodium bisulfate
- NaHSO<sub>4</sub>
- M = 120,06 g/mol
- CAS [7681-38-1]
- EINECS-No.: 231-665-7
- Solub. in water: (25 °C): 286 g/l
- Melting point: 315 °C
- EC-Index-No.: 016-046-00-X
- ADR: 8 C2 III UN 3260
- IMDG: 8 III UN 3260
- IATA/ICAO: 8 III UN 3260
- GHS-signal word: Danger
- GHS-H sentences: H318
- GHS-P sentences: P280 - P305 + P351 + P338 - P310
- Tariff number: 2833 19 00 00
- Applications: analytical chemistry, in the textile industry, in building materials.

assay (acidimetric) . . . . . min. 97 %  
insoluble in water. . . . . max. 0,01 %  
chlorides (Cl) . . . . . max. 0,005 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,003 %  
calcium (Ca) . . . . . max. 0,01 %  
heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 0,005 %  
magnesium (Mg) . . . . . max. 0,01 %  
potassium (K) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
SO01500500	500 g	
SO01501000	1 kg	

## SODIUM HYDROGEN SULFITE, SOLUTION 40%

SO0417 Sodium hydrogen sulfite, solution 40%, EssentQ®



- Synonyms: Sodium bisulfite, Bisulfite, Sodium bisulfite solution
- NaHSO<sub>3</sub>
- M = 104,06 g/mol
- CAS [7631-90-5]
- EINECS-No.: 231-548-0
- Density: 1,25 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 540 g/l
- Melting point: -44 °C
- Boiling point: 146 °C
- Vapour pressure: (20 °C) 40 hPa
- LD 50 (oral, rat): 1540 mg/kg (pure substance)
- EC-Index-No.: 016-064-00-8
- ADR: 8 C1 III UN 2693
- IMDG: 8 III UN 2693
- IATA/ICAO: 8 III UN 2693
- GHS-signal word: Warning
- GHS-H sentences: H302 - EUH031 -
- Tariff number: 2832 10 00 00
- Applications: laboratory reagent, synthesis of organic products, in food industry (E 222), preservative agent, bleaching agent.

assay (iodometric) . . . . . approx. 40 %

ART. NO.	VOLUME	CONTAINER
SO04171000	1 l	
SO0417025P	25 l	

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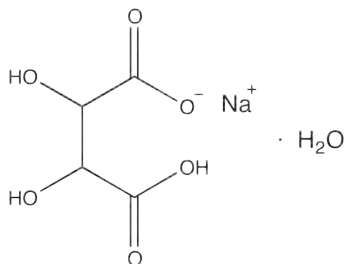


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## SODIUM HYDROGEN TARTRATE MONOHYDRATE

SO0419 Sodium hydrogen tartrate monohydrate, ExpertQ®, for analysis



- Synonyms: Sodium bitartrate monohydrate
- $C_4H_5NaO_6 \cdot H_2O$
- M = 190,09 g/mol
- CAS [526-94-3]
- EINECS-No.: 208-400-9
- Solub. in water: (20 °C): 89 g/l
- Melting point: 253 °C
- Tariff number: 2918 13 00 90
- Applications: analytical chemistry, for the detection of: potassium; nutrient media for bacterial culture

assay (acidimetric) . . . . . 99,5 - 100,5 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %, H<sub>2</sub>O, 20 °C) . . . . . 3,0 - 3,6  
 chlorides (Cl) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,002 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,005 %  
 arsenic (As) . . . . . max. 0,4 ppm  
 calcium (Ca) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 0,001 %  
 loss on drying (120 °C) . . . . . 9,0 - 10,0 %

ART. NO.	VOLUME	CONTAINER
SO04190500	500 g	
SO04191000	1 kg	

## SODIUM HYDROXIDE

- Synonyms: Caustic soda
- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Solub. in water: (20 °C): soluble
- Melting point: 323 °C

- Boiling point: 1390 °C
- EC-Index-No.: 011-002-00-6
- ADR: 8 C6 II UN 1823
- IMDG: 8 II UN 1823
- IATA/ICAO: 8 II UN 1823
- GHS-signal word: Danger
- GHS-H sentences: H314

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 11 00 00
- Applications: solutions: to neutralize acids, to make sodium salts, to precipitate metals (as hydroxides) from water solutions of their salts.

SO0418 Sodium hydroxide, granulated, EssentQ®



assay (acidimetric) . . . . . min. 98 %  
 sodium carbonate (Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 0,5 %  
 sodium oxide (Na<sub>2</sub>O) . . . . . min. 75,5 %  
 iron (Fe) . . . . . max. 15 ppm  
 nickel (Ni) . . . . . max. 3 ppm

ART. NO.	VOLUME	CONTAINER
SO04181000	1 kg	
SO0418005P	5 kg	





ART. NO.	VOLUME	CONTAINER
SO0418025P	25 kg	

SO0420 Sodium hydroxide, pellets, extra pure, Pharmapur®, Ph Eur, BP, NF



assay (acidimetric) . . . . . 97,0 - 100,5 %  
 sodium (Na) . . . . . 54,0 - 59,8 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 2,0 %  
 chlorides (Cl) . . . . . max. 200 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 200 ppm  
 potassium (K) . . . . . max. 0,5 %

iron (Fe) . . . . . max. 10 ppm  
 insoluble substances and  
 organic matter . . . . . passes test  
 Elemental impurities are analysed according to guideline  
 CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline  
 CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO04200500	500 g	
SO04201000	1 kg	
SO0420005P	5 kg	
SO0420025P	25 kg	

SO0473 Sodium hydroxide, pellets, ExpertQ®, for analysis



assay (acidimetric) . . . . . min. 97 %  
 carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1,0 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,002 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %

ammonium hydroxide precipitate . . . . . max. 0,02 %  
 nitrogen compounds (as N) . . . . . max. 0,001 %  
 heavy metals (as Ag) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,001 %  
 mercury (Hg) . . . . . max. 0,4 ppm

ART. NO.	VOLUME	CONTAINER
SO04731000	1 kg	
SO0473005P	5 kg	
SO0473025P	25 kg	

SO0425 Sodium hydroxide, pellets, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (acidimetric) . . . . . min. 98,5 %  
identity . . . . . passes test  
appearance of solution . . . . . passes test  
carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1,0 %  
chlorides (Cl) . . . . . max. 0,001 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 5 ppm  
silicates (SiO<sub>2</sub>) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 5 ppm  
ammonium hydroxide precipitate . . . . . max. 0,02 %  
total nitrogen (as N) . . . . . max. 0,001 %  
aluminium (Al) . . . . . max. 5 ppm

arsenic (As) . . . . . max. 1 ppm  
calcium (Ca) . . . . . max. 0,001 %  
copper (Cu) . . . . . max. 5 ppm  
heavy metals (as Ag) . . . . . max. 0,002 %  
iron (Fe) . . . . . max. 5 ppm  
lead (Pb) . . . . . max. 2 ppm  
magnesium (Mg) . . . . . max. 5 ppm  
mercury (Hg) . . . . . max. 0,1 ppm  
nickel (Ni) . . . . . max. 5 ppm  
potassium (K) . . . . . max. 0,02 %  
zinc (Zn) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO04250500	500 g	
SO04251000	1 kg	
SO0425005P	5 kg	
SO0425025P	25 kg	

**SODIUM HYDROXIDE, SOLUTION 50%**

SO0424 Sodium hydroxide, solution 50% w/v, EssentQ®



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: ~ 1,4 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 12 °C
- Boiling point: 143 °C
- Vapour pressure: (20 °C) 2 hPa
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent, solvents, for pharmaceutical use, for the synthesis of: inorganic salts.

assay (acidimetric) . . . . . approx. 50 %  
carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1 %  
chlorides (Cl) . . . . . max. 0,002 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,002 %  
silicates (SiO<sub>2</sub>) . . . . . max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %  
total nitrogen (as N) . . . . . max. 0,002 %  
aluminium (Al) . . . . . max. 0,001 %  
arsenic (As) . . . . . max. 0,4 ppm  
calcium (Ca) . . . . . max. 0,005 %  
copper (Cu) . . . . . max. 0,001 %  
heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,001 %  
lead (Pb) . . . . . max. 0,001 %  
magnesium (Mg) . . . . . max. 0,005 %  
nickel (Ni) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO04241000	1 l	
SO0424005P	5 l	
SO0424025P	25 l	

**SODIUM HYDROXIDE, SOLUTION 40%**

SO0422 Sodium hydroxide, solution 40% w/v, EssentQ®



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,33 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent, solvents, for pharmaceutical use, for the synthesis of: inorganic salts.

assay (acidimetric) . . . . . min. 40 %  
carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1 %  
chlorides (Cl) . . . . . max. 0,002 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,002 %  
silicates (SiO<sub>2</sub>) . . . . . max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %  
total nitrogen (as N) . . . . . max. 0,005 %  
aluminium (Al) . . . . . max. 0,001 %  
heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO04221000	1 l	
SO0422005P	5 l	
SO0422010C	10 l	
SO0422025P	25 l	




## SODIUM HYDROXIDE, SOLUTION 35%

 SO0423 Sodium hydroxide, solution 35% w/v, EssentQ®
 


- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: ~ 1,3 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 9 °C
- Boiling point: 119 °C
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent, solvents, for pharmaceutical use, for the synthesis of: inorganic salts.

assay (acidimetric) . . . . . approx. 35 %  
 carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,002 %  
 silicates (SiO<sub>2</sub>) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %  
 total nitrogen (as N) . . . . . max. 0,005 %  
 aluminium (Al) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO0423005P	5 l	
SO0423025P	25 l	




## SODIUM HYDROXIDE, SOLUTION 32%

 SO0426 Sodium hydroxide, solution 32% w/v, for the determination of nitrogen
 

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,26 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 9 °C
- Boiling point: 119 °C
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent, for determination of: nitrogen.

assay (acidimetric) . . . . . min. 32 %  
 carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 0,5 %  
 chlorides (Cl) . . . . . max. 0,0005 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,0005 %  
 silicates (SiO<sub>2</sub>) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0005 %  
 total nitrogen (as N) . . . . . max. 0,0001 %  
 aluminium (Al) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm




ART. NO.	VOLUME	CONTAINER
SO04261000	1 l	
SO0426005P	5 l	
SO0426025P	25 l	

## SODIUM HYDROXIDE, SOLUTION 30%

 SO0421 Sodium hydroxide, solution 30% w/v, EssentQ®
 

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,27 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent.

assay (acidimetric) . . . . . min. 30 %  
 carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,002 %  
 silicates (SiO<sub>2</sub>) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %  
 total nitrogen (as N) . . . . . max. 0,005 %  
 aluminium (Al) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO04211000	1 l	
SO0421005P	5 l	
SO0421025P	25 l	

**SODIUM HYDROXIDE, SOLUTION 25%**

SO0433 Sodium hydroxide, solution 25% w/v, EssentQ®



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: ~ 1,23 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent.

assay (acidimetric) . . . . . min. 25 %  
 carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,002 %  
 silicates (SiO<sub>2</sub>) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %  
 total nitrogen (as N) . . . . . max. 0,005 %  
 aluminium (Al) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO04331000	1 l	Ⓟ
SO0433005P	5 l	Ⓟ
SO0433025P	25 l	Ⓟ

**SODIUM HYDROXIDE, SOLUTION 20%**

SO0412 Sodium hydroxide, solution 20% w/v, EssentQ®



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: ~ 1,21 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -26 °C
- Boiling point: 100 °C
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent.

assay (acidimetric) . . . . . min. 20 %  
 carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,002 %  
 silicates (SiO<sub>2</sub>) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %  
 total nitrogen (as N) . . . . . max. 0,005 %  
 aluminium (Al) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO04120500	500 ml	Ⓟ

**Chemispill®**

Laboratory absorbents  
 Safety against unexpected spillages



A  
B  
C  
D  
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F  
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## SODIUM HYDROXIDE, VOLUMETRIC SOLUTIONS

### SO0451 Sodium hydroxide, solution 6 mol/l (6 N)



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: ~ 1,23 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,24 g NaOH  
This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04511000	1 l	

### SO0455 Sodium hydroxide, solution 5 mol/l (5 N)



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: ~ 1,18 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,2000 g NaOH  
This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04551000	1 l	
SO0455005P	5 l	

### SO0440 Sodium hydroxide, solution 2 mol/l (2 N)



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,09 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,080 g NaOH  
This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04401000	1 l	
SO0440005P	5 l	

### SO0430 Sodium hydroxide, solution 1,66 mol/l (1,66 N)



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: ~ 1,07 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2815 12 00 00
- Applications: for the determination of total acidity in vinegar.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,0664 g NaOH  
This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04301000	1 l	

## SO0457 Sodium hydroxide, solution 1,2 mol/l (1,2 N)



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,05 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P310 - P405 - P501a
- Tariff number: 2815 12 00 00

factor . . . . . 0,999 - 1,001  
1 ml = 0,0480 g NaOH

This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO0457025P	25 l	

## SO0441 Sodium hydroxide, solution 1 mol/l (1 N)



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,04 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,0400 g NaOH

This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04411000	1 l	
SO0441005P	5 l	
SO0441010C	10 l	

## SO0442 Sodium hydroxide, solution 0,5 mol/l (0,5 N)



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,02 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,02000 g NaOH

This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04421000	1 l	
SO0442005P	5 l	
SO0442010C	10 l	

## SO0452 Sodium hydroxide, solution 0,4 mol/l (0,4 N)



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,02 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 III UN 1824
- IMDG: 8 III UN 1824
- IATA/ICAO: 8 III UN 1824
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,01600 g NaOH

This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04521000	1 l	

**SO0449 Sodium hydroxide, solution 0,3546 mol/l (0,3546 N)**



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,01 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 III UN 1824
- IMDG: 8 III UN 1824
- IATA/ICAO: 8 III UN 1824
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2815 12 00 00

- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, for acid solutions standardization, for the analysis of: oils.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,01418 g NaOH  
This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04491000	1 l	



**SO0444 Sodium hydroxide, solution 0,25 mol/l (0,25 N)**



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,01 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 III UN 1824
- IMDG: 8 III UN 1824
- IATA/ICAO: 8 III UN 1824
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2815 12 00 00

- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,0100 g NaOH  
This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04441000	1 l	
SO0444010C	10 l	



**SO0464 Sodium hydroxide, solution 1/4,9 mol/l (1/4,9 N)**



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 III UN 1824
- IMDG: 8 III UN 1824
- IATA/ICAO: 8 III UN 1824
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2815 12 00 00

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,008163 g NaOH  
This volumetric solution was checked using Scharlau's potassium hydrogen by means of potentiometric methods phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04640500	500 ml	
SO04641000	1 l	

**SO0445 Sodium hydroxide, solution 0,2 mol/l (0,2 N)**



- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 III UN 1824
- IMDG: 8 III UN 1824
- IATA/ICAO: 8 III UN 1824
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2815 12 00 00

- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, for acid solutions standardization.




factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,008002 g NaOH  
This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04451000	1 l	

## SO0429 Sodium hydroxide, solution 1/9 mol/l (1/9 N)

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,004 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.




factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,00444 g NaOH  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04291000	1 l	
SO0429005P	5 l	
SO0429010C	10 l	

## SO0443 Sodium hydroxide, solution 0,1 mol/l (0,1 N)

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,00 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.



factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,00400 g NaOH  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04431000	1 l	
SO0443005P	5 l	
SO0443010C	10 l	

## SO0453 Sodium hydroxide, solution 0,05 mol/l (0,05 N)

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,003 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.



factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,0020 g NaOH  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04531000	1 l	
SO0453010C	10 l	

## SO0447 Sodium hydroxide, solution 0,025 mol/l (0,025 N)

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,00 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, for acid solutions standardization.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,0010 g NaOH  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04471000	1 l	
SO0447010C	10 l	

## SO0465 Sodium hydroxide, solution 1/49 mol/l (1/49 N)

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 011-002-00-6
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent.


factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,0008163 g NaOH  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04650500	500 ml	
SO04651000	1 l	

## SO0448 Sodium hydroxide, solution 0,02 mol/l (0,02 N)

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,00 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, for acid solutions standardization, for the determination of total acidity in vinegar.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,00080 g NaOH  
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).




ART. NO.	VOLUME	CONTAINER
SO04480500	500 ml	
SO04481000	1 l	



**SO0439 Sodium hydroxide, solution 0,01 mol/l (0,01 N)**

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,00 g/cm<sup>3</sup>
- EC-Index-No.: 011-002-00-6
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis, for acid solutions standardization.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,000400 g NaOH  
This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium hydrogen phthalate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO04391000	1 l	
SO0439005P	5 l	
SO0439010C	10 l	

**SO0428 Sodium hydroxide, concentrated solution to prepare 1 l of solution 1 mol/l (1 N)**

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,38 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824

- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 12 00 00
- Applications: solutions: to neutralize acids, to make sodium salts, to precipitate metals (as hydroxides) from water solutions of their salts.

amount of substance: 40,000 g NaOH  
concentrated solution . . . . . 5 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
SO042800PA	u.	

**SO0434 Sodium hydroxide, concentrated solution to prepare 1 l of solution 0,5 mol/l (0,5 N)**

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,185 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824

- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 12 00 00
- Applications: solutions: to neutralize acids, to make sodium salts, to precipitate metals (as hydroxides) from water solutions of their salts.

amount of substance: 20,00 g NaOH  
concentrated solution . . . . . 5 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
SO043400PA	u.	

**SO0427 Sodium hydroxide, concentrated solution to prepare 1 l of solution 0,1 mol/l (0,1 N)**

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,09 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 II UN 1824
- IMDG: 8 II UN 1824
- IATA/ICAO: 8 II UN 1824

- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2815 12 00 00
- Applications: solutions: to neutralize acids, to make sodium salts, to precipitate metals (as hydroxides) from water solutions of their salts.

amount of substance: 4,000 g NaOH  
concentrated solution . . . . . 1 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
SO042700PA	u.	

**SO0438 Sodium hydroxide, concentrated solution to prepare 1 l of solution 0,01 mol/l (0,01 N)**

- NaOH
- M = 40,00 g/mol
- CAS [1310-73-2]
- EINECS-No.: 215-185-5
- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 011-002-00-6
- ADR: 8 C5 III UN 1824
- IMDG: 8 III UN 1824

- IATA/ICAO: 8 III UN 1824
- GHS-signal word: Warning
- GHS-H sentences: H290
- Tariff number: 2815 12 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

amount of substance: 0,400 g NaOH  
concentrated solution . . . . . 0,1 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
SO043800PA	u.	

## Custom-made standards

### Standards according customer requirements

- Organic standards
- Pesticide standards
- ICP multielements standards
- Ion chromatography standards
- Monoelement standards in unusual concentrations





**SODIUM HYPOCHLORITE, SOLUTION 15%**

SO0436 Sodium hypochlorite, solution 15% w/v, EssentQ® 

- Synonyms: Clorox
- NaClO
- M = 74,44 g/mol
- CAS [7681-52-9]
- EINECS-No.: 231-668-3
- Density: (20 °C) ~ 1,22 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -16 °C
- Boiling point: ~ 97 °C
- Vapour pressure: (20 °C) ~ 25 hPa
- LD 50 (oral, rat): 8200 mg/kg (pure substance)
- EC-Index-No.: 017-011-00-1

- ADR: 8 C9 III UN 1791
- IMDG: 8 III UN 1791
- IATA/ICAO: 8 III UN 1791
- GHS-signal word: Danger
- GHS-H sentences: H314 - EUH031
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2828 90 00 00
- Applications: bleaching agent, disinfectant.

assay (iodometric) . . . . . approx. 15 %

ART. NO.	VOLUME	CONTAINER
SO04361000	1 l	
SO0436025P	25 l	




**SODIUM HYPOCHLORITE, SOLUTION 10%**

SO0432 Sodium hypochlorite, solution 10% w/v, EssentQ® 


- Synonyms: Clorox
- NaClO
- M = 74,44 g/mol
- CAS [7681-52-9]
- EINECS-No.: 231-668-3
- Density: 1,12 - 1,18 g/cm<sup>3</sup>
- EC-Index-No.: 017-011-00-1
- ADR: 8 C9 III UN 1791
- IMDG: 8 III UN 1791

- IATA/ICAO: 8 III UN 1791
- GHS-signal word: Danger
- GHS-H sentences: H314 - EUH031
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2828 90 00 00
- Applications: bleaching agent, disinfectant.

assay (iodometric) . . . . . approx. 10 %

ART. NO.	VOLUME	CONTAINER
SO04321000	1 l	
SO0432005P	5 l	
SO0432025P	25 l	




**SODIUM HYPOCHLORITE, SOLUTION 5%**

SO0431 Sodium hypochlorite, solution 5% w/v, EssentQ® 

- Synonyms: Clorox
- NaClO
- M = 74,44 g/mol
- CAS [7681-52-9]
- EINECS-No.: 231-668-3
- Density: 1,10 g/cm<sup>3</sup>
- EC-Index-No.: 017-011-00-1
- GHS-signal word: Danger

- GHS-H sentences: H318 - H315
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P321 - P362 - P332 + P313
- Tariff number: 2828 90 00 00
- Applications: bleaching agent, disinfectant, in the production of chlorides.

assay (iodometric) . . . . . approx. 5 %

ART. NO.	VOLUME	CONTAINER
SO04311000	1 l	
SO0431005P	5 l	
SO0431025P	25 l	

**SODIUM IODATE**

SO0825 Sodium iodate, ExpertQ®, for analysis 

- NaIO<sub>3</sub>
- M = 197,89 g/mol
- CAS [7681-55-2]
- EINECS-No.: 231-672-5
- Solub. in water: (20 °C): 81 g/l
- ADR: 5.1 O2 II UN 1479
- IMDG: 5.1 II UN 1479
- IATA/ICAO: 5.1 II UN 1479
- GHS-signal word: Danger
- GHS-H sentences: H271
- GHS-P sentences: P221 - P283 - P210 - P306 + P360 - P371 + P380 + P375 - P501a
- Tariff number: 2829 90 80 00
- Applications: analytical chemistry, laboratory reagent, antiseptic.
- Appearance: White-fine crystalline powder

- assay (iodometric) . . . . . min. 99,5 %
- insoluble in water . . . . . max. 0,005 %
- pH (5 %, H<sub>2</sub>O) . . . . . 5 - 8
- chlorides, chlorates, bromides and bromates (as Cl) . . . . . max. 0,02 %
- iodides (I) . . . . . max. 0,002 %
- sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %
- total nitrogen (as N) . . . . . max. 0,002 %
- heavy metals (as Pb) . . . . . max. 5 ppm
- iron (Fe) . . . . . max. 0,001 %
- potassium (K) . . . . . max. 0,02 %
- loss on drying (130 °C) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
SO08250100	100 g	

## SODIUM IODIDE

- NaI
- M = 149,89 g/mol
- CAS [7681-82-5]
- EINECS-No.: 231-679-3
- Solub. in water: (20 °C): soluble

- Melting point: 662 °C
- Boiling point: 1304 °C
- Vapour pressure: (767 °C) 1,3 hPa
- LD 50 (oral, rat): 4340 mg/kg
- Tariff number: 2827 60 00 00

- Applications: analytical chemistry, laboratory reagent, photography, synthesis of organic products, in optics, in the pharmaceuticals industry.

## SO0835 Sodium iodide, extra pure, Pharpur®, Ph Eur, BP, USP

assay (iodometric, referred to dried sample) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 alkalinity . . . . . passes test  
 iodates (IO<sub>3</sub>) . . . . . passes test  
 iodates (IO<sub>3</sub>) . . . . . max. 4 ppm  
 nitrates, nitrites and ammonia . . . . . passes test  
 sulfates (SO<sub>4</sub>) . . . . . max. 150 ppm  
 thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . passes test

thiosulfates and barium . . . . . passes test  
 iron (Fe) . . . . . max. 20 ppm  
 potassium (K) . . . . . passes test  
 loss on drying (105 °C) . . . . . max. 3,0 %  
 water (K.F.) . . . . . max. 2,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO08350250	250 g	Ⓟ
SO08351000	1 kg	Ⓟ

## SO0837 Sodium iodide, ExpertQ®, for analysis, ACS, Reag. Ph Eur

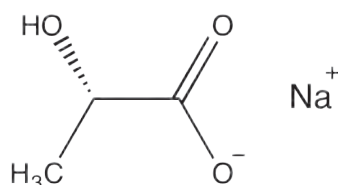
assay (iodometric) . . . . . min. 99,5 %  
 assay (iodometric, referred to dried sample) . . . . . 99,0 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,01 %  
 alkalinity . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 6,0 - 9,0  
 chlorides and bromides (as Cl) . . . . . max. 0,01 %  
 iodates (IO<sub>3</sub>) . . . . . passes test  
 iodates (IO<sub>3</sub>) . . . . . max. 3 ppm  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %

sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . passes test  
 barium (Ba) . . . . . max. 0,002 %  
 calcium (Ca) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 1 ppm  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 1 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 0,1 ppm  
 potassium (K) . . . . . max. 0,01 %  
 loss on drying (105 °C) . . . . . max. 3,0 %

ART. NO.	VOLUME	CONTAINER
SO08370100	100 g	Ⓟ
SO08370250	250 g	Ⓟ
SO08370500	500 g	Ⓟ
SO08371000	1 kg	Ⓟ

## SODIUM LACTATE, SOLUTION 50%

## SO0460 Sodium lactate, solution 50% w/w, extra pure, Pharpur®, Ph Eur, BP, USP

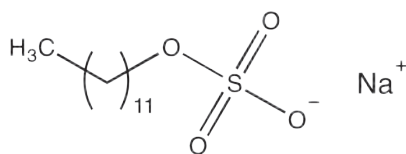


- Synonyms: L-2-Hydroxypropanoic acid sodium salt, Lactic acid sodium salt
- C<sub>3</sub>H<sub>5</sub>NaO<sub>3</sub>
- M = 112,06 g/mol
- CAS [867-56-1]
- EINECS-No.: 200-772-0
- Density: 1,263 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Boiling point: 109 °C
- LD 50 (oral, rat): > 5000 mg/kg
- Tariff number: 2918 11 00 00
- Applications: synthesis of organic products, for pharmaceutical use, in food industry (E 325), humectant, in pharma industry.

assay (titration with HClO<sub>4</sub>) . . . . . min. 50,0 %  
 content of Sodium lactate . . . . . 98,0 - 102,0 %  
 content of sodium (S)-lactate . . . . . min. 95,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 pH . . . . . 6,5 - 9,0  
 chlorides (Cl) . . . . . max. 50 ppm  
 citrate, oxalate, phosphate or tartrate passes test  
 oxalates and phosphates . . . . . passes test  
 sulfates (SO<sub>4</sub>) . . . . . passes test  
 sulfates (SO<sub>4</sub>) . . . . . max. 100 ppm  
 methanol and methyl esters . . . . . max. 0,025 %  
 barium (Ba) . . . . . passes test  
 iron (Fe) . . . . . max. 10 ppm  
 sucrose and reducing sugars . . . . . passes test  
 sugars . . . . . passes test  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO04601000	1 l	Ⓟ
SO0460005P	5 l	Ⓟ

## SODIUM LAURYL SULFATE



- Synonyms: Dodecyl sulfate sodium salt, SDS
- $C_{12}H_{25}NaO_4S$
- $M = 288,38 \text{ g/mol}$
- CAS [151-21-3]
- EINECS-No.: 205-788-1
- Solub. in water: (20 °C): > 130 g/l
- Melting point: 205 °C
- Boiling point: 216 °C
- Flash pt. 170 - 180 °C
- Ignition temp.: 310,5 °C
- Vapour pressure: 0,18 Pa (20 °C)
- LD 50 (oral, rat): 1288 mg/kg

- ADR: 4.1 F1 III UN 1325
- IMDG: 4.1 III UN 1325
- IATA/ICAO: 4.1 III UN 1325
- GHS-signal word: Danger
- GHS-H sentences: H311 - H318 - H228 - H302 - H332 - H315 - H335 - H412
- GHS-P sentences: P210 - P241 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2920 90 10 90
- Applications: in biochemistry, for determination of: tensioactive substances.
- Appearance: White

### SO0450 Sodium lauryl sulfate, 95%, EssentQ®



chlorides (Cl) ..... 0,1 - 1 %  
sulfates (SO<sub>4</sub>) ..... 0,1 - 3 %  
heavy metals (as Pb) ..... max. 0,001 %  
loss on drying (110 °C) ..... max. 2 %

ART. NO.	VOLUME	CONTAINER
SO04500500	500 g	Ⓟ
SO04501000	1 kg	Ⓟ

ART. NO.	VOLUME	CONTAINER
SO0450005P	5 kg	Ⓟ

### SO0499 Sodium lauryl sulfate, Pharmpur® , Ph Eur, BP, NF



Assay (as sodium alkyl sulfates) ..... min. 85,0 %  
Identification IR ..... passes test  
Identification A (EP)/  
Identification D (USP) ..... passes test  
Identification B (EP)/  
Identification E (USP) ..... passes test  
Identification C (EP) ..... passes test  
Identification D (EP)/  
Identification C (USP) ..... passes test  
Identification A (USP) ..... passes test  
Identification B (USP) ..... passes test

alkalinity ..... passes test  
Sum of sodium chloride and sodium sulfate ..... max. 3,5 %  
total alcohols ..... max. 59,0 %  
non-esterified alcohols ..... max. 4,0 %  
unsulfated alcohols ..... max. 4,0 %

Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.

ART. NO.	VOLUME	CONTAINER
SO04990500	500 g	Ⓟ

### SD0010 Sodium lauryl sulfate, molecular biology grade



assay (complexometric) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
solubility in ethanol ..... passes test  
absorbance of an aqueous solution (3 %) in a 1 cm cell at 264 nm ..... max. 0,1 AU  
absorbance of an aqueous solution (3 %) in a 1 cm cell at 280 nm ..... max. 0,1 AU

chlorides (Cl) ..... max. 0,01 %  
phosphates (as PO<sub>4</sub>) ..... max. 0,0001 %  
copper (Cu) ..... max. 5 ppm  
heavy metals (as Pb) ..... max. 5 ppm  
water (K.F.) ..... max. 2 %  
DNases, RNases ..... non detected

ART. NO.	VOLUME	CONTAINER
SD00100050	50 g	Ⓟ
SD00100500	500 g	Ⓟ
SD00101000	1 kg	Ⓟ

### SO0456 Sodium lauryl sulfate, for ion-pair chromatography



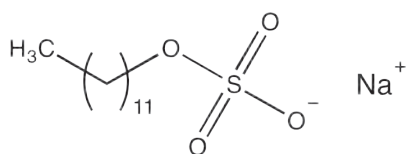
identity (IR-spectrum) ..... passes test  
insoluble matter ..... passes test  
pH (10 %, H<sub>2</sub>O) ..... 6,0 - 7,5  
loss on drying (120 °C) ..... max. 2 %

max. absorbance of an aqueous sol. 10 % in a 1,0 cm cell at wavelength  
210 nm ..... 0,1 AU  
220 nm ..... 0,06 AU  
230 nm ..... 0,04 AU  
260 nm ..... 0,02 AU

ART. NO.	VOLUME	CONTAINER
SO04560025	25 g	Ⓟ
SO04560100	100 g	Ⓟ

## SODIUM LAURYL SULFATE, VOLUMETRIC SOLUTIONS

### SO0458 Sodium lauryl sulfate, solution 0,004 mol/l



- $C_{12}H_{25}NaO_4S$
- $M = 288,38 \text{ g/mol}$
- CAS [151-21-3]
- EINECS-No.: 205-788-1
- Density: 1,00 g/cm<sup>3</sup>
- LD 50 (oral, rat): 1288 mg/kg (pure substance)
- Tariff number: 2920 90 10 90
- Applications: analytical chemistry, for determination of: tensioactive substances.

factor ..... 0,995 - 1,005  
1 ml = 0,001153 g  $C_{12}H_{25}NaO_4S$   
This volumetric solution was freshly prepared from sodium lauryl sulfate, reagent grade

ART. NO.	VOLUME	CONTAINER
SO04581000	1 l	Ⓟ

## SODIUM METAARSENITE, VOLUMETRIC SOLUTIONS

SO0100 Sodium metaarsenite, solution 0,05 mol/l (0,1 N) 

- NaAsO<sub>2</sub>
- M = 129,91 g/mol
- CAS [7784-46-5]
- EINECS-No.: 232-070-5
- Density: 1,01 g/cm<sup>3</sup>
- LD 50 (oral, rat): 41 mg/kg (pure substance)
- EC-Index-No.: 033-002-00-5
- ADR: 6.1 T4 III UN 1686
- IMDG: 6.1 III UN 1686
- IATA/ICAO: 6.1 III UN 1686
- GHS-signal word: Danger
- GHS-H sentences: H350 - H412
- GHS-P sentences: P281 - P273 - P201 - P308 + P313 - P405 - P501a

- Tariff number: 2842 90 80 80
- Applications: analytical chemistry, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty ± 0,001  
1 ml = 0,004946 g As<sub>2</sub>O<sub>3</sub> 1 ml = 0,006495 g NaAsO<sub>2</sub>  
This volumetric solution was checked by means of potentiometric methods using an iodine standard solution, that was also checked against Scharlau's potassium dichromate volumetric standard. Scharlau's volumetric standard solutions are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO01001000	1 l	

## SODIUM METAPERIODATE

- Synonyms: Sodium periodate
- NaIO<sub>4</sub>
- M = 213,89 g/mol
- CAS [7790-28-5]
- EINECS-No.: 232-197-6
- Solub. in water: (20 °C): 91 g/l
- Melting point: 300 °C (decomposes)

- ADR: 5.1 O2 I UN 1479
- IMDG: 5.1 I UN 1479
- IATA/ICAO: 5.1 I UN 1479
- GHS-signal word: Danger
- GHS-H sentences: H271
- GHS-P sentences: P221 - P283 - P210 - P306 + P360 - P371 + P380 + P375 - P501a


- Tariff number: 2829 90 80 00
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products, for laboratory glassware cleaning.
- Appearance: White to almost white crystals

SO0564 Sodium metaperiodate, EssentQ® 

assay (iodometric) . . . . . min. 99 %  
bromates, bromides, chlorates and  
chlorides (as Cl) . . . . . max. 0,01 %

sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
manganese (Mn) . . . . . max. 1 ppm

ART. NO.	VOLUME	CONTAINER
SO05641000	1 kg	

SO0565 Sodium metaperiodate, ExpertQ®, for analysis, ACS, Reag. Ph Eur 

assay (iodometric, on dried sample) . . . 99,8 - 100,3 %  
identity . . . . . passes test  
pH (5 %, H<sub>2</sub>O) . . . . . 4,0 - 4,5  
other halogens (as Cl) . . . . . max. 0,01 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %

manganese (Mn) . . . . . max. 1 ppm


ART. NO.	VOLUME	CONTAINER
SO05650100	100 g	
SO05650250	250 g	
SO05651000	1 kg	

## SODIUM MOLYBDATE DIHYDRATE

- Na<sub>2</sub>MoO<sub>4</sub>·2H<sub>2</sub>O
- M = 241,95 g/mol
- CAS [10102-40-6]
- EINECS-No.: 231-551-7
- Solub. in water: (20 °C): 840 g/l






- LD 50 (oral, rat): 4233 mg/kg
- Tariff number: 2841 70 00 90
- Applications: analytical chemistry, laboratory reagent, for determination of: phosphates; reagent for the following substances detection: alkaloids; for the

synthesis of: pigment; corrosion inhibitor, nutrient media for bacterial culture.

SO0489 Sodium molybdate dihydrate, extra pure, Pharmapur®, Ph Eur, BP 

assay (redox, referred to  
dried sample) . . . . . 98,0 - 100,5 %  
identification . . . . . passes test  
appearance of solution . . . . . clear and colourless  
chlorides (Cl) . . . . . max. 50 ppm  
phosphates (as PO<sub>4</sub>) . . . . . max. 200 ppm  
ammonium (NH<sub>4</sub>) . . . . . max. 10 ppm  
loss on drying (140 °C, 3h) . . . . . 14,0 - 16,0 %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO04890100	100 g	
SO04890250	250 g	
SO04891000	1 kg	
SO0489005P	5 kg	
SO0489025P	25 Kg	

SO0490 Sodium molybdate dihydrate, ExpertQ®, for analysis, ACS, Reag. Ph Eur

assay (permanganometric) . . . . . 99,5 - 103,0 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,005 %  
pH (5 %, H<sub>2</sub>O) . . . . . 7,0 - 10,5  
chlorides (Cl) . . . . . max. 0,005 %  
nitrates (NO<sub>3</sub>) . . . . . max. 0,005 %

phosphates (as PO<sub>4</sub>) . . . . . max. 5 ppm  
sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
ammonium (NH<sub>4</sub>) . . . . . max. 0,001 %  
heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 0,001 %  
lead (Pb) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO04900100	100 g	
SO04900250	250 g	
SO04901000	1 kg	

## SODIUM NITRATE

- Synonyms: Nitric acid sodium salt
- NaNO<sub>3</sub>
- M = 84,99 g/mol
- CAS [7631-99-4]
- EINECS-No.: 231-554-3
- Solub. in water: (20 °C): soluble
- Melting point: 308 °C

- LD 50 (oral, rat): 1267 mg/kg
- ADR: 5.1 O2 III UN 1498
- IMDG: 5.1 III UN 1498
- IATA/ICAO: 5.1 III UN 1498
- GHS-signal word: Danger
- GHS-H sentences: H272 - H319

- GHS-P sentences: P221 - P210 - P220 - P280 - P305 + P351 + P338 - P501a
- Tariff number: 3102 50 00 89
- Applications: analytical chemistry, laboratory reagent, oxidizing agent, in food industry (E 251), preservative agent.

SO0500 Sodium nitrate, EssentQ®



assay (acidimetric) . . . . . min. 99 %  
insoluble in water . . . . . max. 0,025 %  
pH (5 %, H<sub>2</sub>O) . . . . . 5,5 - 8,3  
chlorides (Cl) . . . . . max. 0,025 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
ammonium (NH<sub>4</sub>) . . . . . max. 0,005 %  
arsenic (As) . . . . . max. 2 ppm

calcium (Ca) . . . . . max. 0,005 %  
copper (Cu) . . . . . max. 0,001 %  
heavy metals (as Pb) . . . . . max. 0,002 %  
iron (Fe) . . . . . max. 0,001 %  
lead (Pb) . . . . . max. 0,001 %  
magnesium (Mg) . . . . . max. 0,005 %  
nickel (Ni) . . . . . max. 0,001 %  
loss on drying (105 °C) . . . . . max. 2 %

ART. NO.	VOLUME	CONTAINER
SO05000500	500 g	
SO05001000	1 kg	
SO0500005P	5 kg	
SO0500025P	25 kg	

SO0501 Sodium nitrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (acidimetric) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,005 %  
pH (5 %, H<sub>2</sub>O, 25 °C) . . . . . 5,5 - 8,0  
chlorides (Cl) . . . . . max. 5 ppm  
iodates (IO<sub>3</sub>) . . . . . max. 5 ppm  
nitrites (NO<sub>2</sub>) . . . . . max. 0,001 %  
phosphates (as PO<sub>4</sub>) . . . . . max. 5 ppm

sulfates (SO<sub>4</sub>) . . . . . max. 0,003 %  
ammonium (NH<sub>4</sub>) . . . . . max. 0,002 %  
calcium (Ca) . . . . . max. 0,002 %  
heavy metals . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 3 ppm  
magnesium (Mg) . . . . . max. 0,002 %  
potassium (K) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
SO05010500	500 g	
SO05011000	1 kg	
SO0501005P	5 kg	

## SODIUM NITRATE, VOLUMETRIC SOLUTIONS

SO0505 Sodium nitrate, solution 1 mol/l



- NaNO<sub>3</sub>
- M = 84,99 g/mol
- CAS [7631-99-4]
- EINECS-No.: 231-554-3
- Density: 1,0 g/cm<sup>3</sup>
- LD 50 (oral, rat): 1267 mg/kg (pure substance)
- GHS-signal word: Danger
- GHS-H sentences: H272

- GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a
- Tariff number: 3102 50 00 89
- Applications: analytical chemistry, laboratory reagent, oxidizing agent.

1 ml = 0,08499 g NaNO<sub>3</sub>

ART. NO.	VOLUME	CONTAINER
SO05051000	1 l	

## SODIUM NITRITE

- NaNO<sub>2</sub>
- M = 69,00 g/mol
- CAS [7632-00-0]
- EINECS-No.: 231-555-9
- Solub. in water: (20 °C): soluble
- Melting point: 280 °C (decomposes)
- Ignition temp.: 489 °C

- LD 50 (oral, rat): 85 mg/kg
- EC-Index-No.: 007-010-00-4
- ADR: 5.1 OT2 III UN 1500
- IMDG: 5.1 III UN 1500
- IATA/ICAO: 5.1 III UN 1500
- GHS-signal word: Danger
- GHS-H sentences: H301 - H272 - H400

- GHS-P sentences: P221 - P210 - P220 - P321 - P405 - P501a
- Tariff number: 2834 10 00 00
- Applications: analytical chemistry, laboratory reagent, oxidizing agent, synthesis of organic products, manufacture of dyes (in the textile industry), photography, in food industry.



## SO0510 Sodium nitrite, EssentQ®



assay (iodometric) ..... min. 98 %

ART. NO.	VOLUME	CONTAINER
SO05100500	500 g	
SO05101000	1 kg	

ART. NO.	VOLUME	CONTAINER
SO0510005P	5 kg	

## SO0512 Sodium nitrite, ExpertQ®, for analysis, ACS



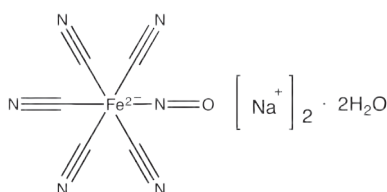
assay (permanganometric) ..... min. 99,0 %  
 identity (IR-spectrum) ..... passes test  
 insoluble in water ..... max. 0,01 %  
 chlorides (Cl) ..... max. 0,005 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,005 %

calcium (Ca) ..... max. 0,002 %  
 heavy metals (as Pb) ..... max. 0,001 %  
 iron (Fe) ..... max. 0,001 %  
 potassium (K) ..... max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO05120500	500 g	
SO05121000	1 kg	
SO0512005P	5 kg	





## SODIUM NITROPRUSSIDE DIHYDRATE

## SO0520 Sodium nitroprusside dihydrate, ExpertQ®, for analysis, ACS

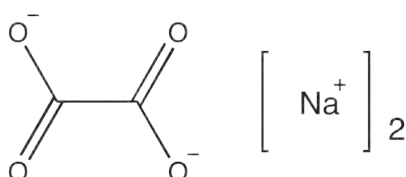


- Synonyms: Disodiumpentacyanonitrosylferrate(II) dihydrate, Disodiumnitrosylpentacyanoferrate(II) dihydrate, Sodium nitroferriyanide, Nitroprusside sodium
- Na<sub>2</sub>[Fe(CN)<sub>5</sub>NO]·2H<sub>2</sub>O
- M = 297,95 g/mol
- CAS [13755-38-9]
- EINECS-No.: 238-373-9
- Solub. in water: (20 °C): 400 g/l
- LD 50 (oral, rat): 99 mg/kg
- ADR: 6.1 T5 II UN 1588
- IMDG: 6.1 II UN 1588
- IATA/ICAO: 6.1 II UN 1588
- GHS-signal word: Danger
- GHS-H sentences: H301
- GHS-P sentences: P264 - P270 - P321 - P330 - P405 - P501a
- Tariff number: 2837 20 00 90
- Applications: reagent for organic compounds detection.

assay (argentometric) ..... 99 - 102 %  
 identity ..... passes test  
 insoluble in water ..... max. 0,01 %  
 chlorides (Cl) ..... max. 0,02 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
SO05200100	100 g	
SO05200250	250 g	
SO05200500	500 g	
SO0520005P	5 kg	

## DI-SODIUM OXALATE



- Synonyms: Oxalic acid sodium salt, Soerensen's buffer substances
- Na<sub>2</sub>C<sub>2</sub>O<sub>4</sub>
- M = 134,01 g/mol
- CAS [62-76-0]
- EINECS-No.: 200-550-3
- Solub. in water: (20 °C): 37 g/l
- Melting point: 250 - 270 °C (decomposes)
- LD 50 (oral, rat): 7500 mg/kg (oxalic acid)


- EC-Index-No.: 607-007-00-3
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312
- GHS-P sentences: P280 - P264 - P270 - P322 - P363 - P501a
- Tariff number: 2917 11 00 99
- Applications: analytical chemistry, reference material.
- Appearance: White solid

## SO0529 di-Sodium oxalate, EssentQ®



assay (permanganometric) ..... min. 99 %  
 insoluble in water ..... max. 0,025 %  
 chlorides (Cl) ..... max. 0,01 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,01 %  
 ammonium (NH<sub>4</sub>) ..... max. 0,005 %

copper (Cu) ..... max. 0,003 %  
 iron (Fe) ..... max. 0,003 %  
 lead (Pb) ..... max. 0,003 %  
 nickel (Ni) ..... max. 0,003 %



ART. NO.	VOLUME	CONTAINER
SO05290500	500 g	
SO05291000	1 kg	

## SO0530 di-Sodium oxalate, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (permanganometric) ..... min. 99,8 %  
 insoluble matter ..... max. 0,005 %  
 acidity ..... passes test  
 chlorides (Cl) ..... max. 0,002 %  
 phosphates (as PO<sub>4</sub>) ..... max. 0,005 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,002 %  
 total nitrogen (as N) ..... max. 0,001 %

ammonium (NH<sub>4</sub>) ..... max. 0,002 %  
 heavy metals (as Pb) ..... max. 0,001 %  
 iron (Fe) ..... max. 5 ppm  
 lead (Pb) ..... max. 0,001 %  
 potassium (K) ..... max. 0,005 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> ..... passes test  
 loss on drying (105 °C) ..... max. 0,01 %


ART. NO.	VOLUME	CONTAINER
SO05300500	500 g	
SO05301000	1 kg	
SO0530005P	5 kg	

SO0531 di-Sodium oxalate, secondary standard for volumetric titrations, Titrasure®



assay (on dried sample) . . . . . min. 99,7 %  
 insoluble in water . . . . . max. 0,005 %  
 neutrality . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,002 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,002 %

heavy metals (as Pb) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,005 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 loss on drying . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
SO05310080	80 g	

## SODIUM PERCHLORATE MONOHYDRATE



SO0535 Sodium perchlorate monohydrate, EssentQ®, Reag. Ph Eur



- NaClO<sub>4</sub>·H<sub>2</sub>O
- M = 140,46 g/mol
- CAS [7791-07-3]
- EINECS-No.: 231-511-9
- Solub. in water: (20 °C): soluble
- Melting point: 130 °C
- LD 50 (oral, rat): 2100 mg/kg (anhydrous substance)
- EC-Index-No.: 017-010-00-6
- ADR: 5.1 O2 II UN 1502
- IMDG: 5.1 II UN 1502
- IATA/ICAO: 5.1 II UN 1502
- GHS-signal word: Danger
- GHS-H sentences: H271 - H302

- GHS-P sentences: P221 - P283 - P210 - P306 + P360 - P371 + P380 + P375 - P501a
- Tariff number: 2829 90 10 00
- Applications: analytical chemistry, laboratory reagent, oxidizing agent, precipitant for: potassium.

assay (argentometric) . . . . . min. 99 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,5 - 7  
 total nitrogen (as N) . . . . . max. 0,001 %  
 chlorides and chlorates (as Cl) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 calcium (Ca) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
SO05350100	100 g	
SO05350500	500 g	

## SODIUM PEROXIDE

SO0555 Sodium peroxide, EssentQ®



- Na<sub>2</sub>O<sub>2</sub>
- M = 77,98 g/mol
- CAS [1313-60-6]
- EINECS-No.: 215-209-4
- Solub. in water: (20 °C): 100 g/l (decomposes)
- Melting point: 460 °C
- Boiling point: 657 °C (decomposes)
- EC-Index-No.: 011-003-00-1
- ADR: 5.1 O2 I UN 1504
- IMDG: 5.1 I UN 1504
- IATA/ICAO: 5.1 I UN 1504
- GHS-signal word: Danger
- GHS-H sentences: H271 - H314

- GHS-P sentences: P221 - P283 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2815 30 00 00
- Applications: oxidizing agent, synthesis of organic products, manufacture of dyes (in the textile industry).

assay (permanganometric) . . . . . min. 95 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,002 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %  
 total nitrogen (as N) . . . . . max. 0,005 %  
 aluminium (Al) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
SO05550100	100 g	
SO05550250	250 g	
SO05551000	1 kg	

## SODIUM PEROXODISULFATE

SO0540 Sodium peroxodisulfate, EssentQ®



- Synonyms: Sodium persulfate, Peroxydisulfuric acid disodium salt
- Na<sub>2</sub>S<sub>2</sub>O<sub>8</sub>
- M = 238,09 g/mol
- CAS [7775-27-1]
- EINECS-No.: 231-892-1
- Solub. in water: (20 °C): 545 g/l
- LD 50 (oral, rat): 920 mg/kg
- ADR: 5.1 O2 III UN 1505
- IMDG: 5.1 III UN 1505
- IATA/ICAO: 5.1 III UN 1505
- GHS-signal word: Danger
- GHS-H sentences: H272 - H334 - H302 - H335 - H315 - H319 - H317
- GHS-P sentences: P221 - P210 - P285 - P305 + P351 + P338 - P405 - P501a

- Tariff number: 2833 40 00 10
- Applications: analytical chemistry, laboratory reagent, oxidizing agent, in the electronic industry, for determination of: TOC.
- Appearance: White to almost white crystals

assay (iodometric) . . . . . min. 98 %  
 insoluble in water . . . . . max. 0,05 %  
 Cl compounds (as Cl) . . . . . max. 0,05 %  
 nitrogen compounds (as N) . . . . . max. 0,1 %  
 calcium (Ca) . . . . . max. 0,01 %  
 copper (Cu) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,002 %  
 magnesium (Mg) . . . . . max. 0,01 %  
 nickel (Ni) . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
SO05400100	100 g	
SO05401000	1 kg	
SO0540005P	5 kg	

## TRI-SODIUM PHOSPHATE ANHYDROUS

 SO0342 tri-Sodium phosphate anhydrous, EssentQ®
 

- Synonyms: tri-Sodium orthophosphate, TSP, Sodium phosphate tribasic
- $\text{Na}_3\text{PO}_4$
- M = 163,94 g/mol
- CAS [7601-54-9]
- EINECS-No.: 231-509-8
- Solub. in water: (20 °C): 88 g/l
- Melting point: 75 °C (decomposes)
- ADR: 8 C6 III UN 3262
- IMDG: 8 III UN 3262
- IATA/ICAO: 8 III UN 3262
- GHS-signal word: Danger
- GHS-H sentences: H314

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2835 23 00 00
- Applications: in food industry, photography, in the paper industry.

assay (acidimetric) . . . . . min. 97 %  
 insoluble in water . . . . . max. 0,05 %  
 free alkali (as NaOH) . . . . . max. 2 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,01 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 1 ppm  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO03420250	250 g	
SO03420500	500 g	
SO03421000	1 kg	

## TRI-SODIUM PHOSPHATE DODECAHYDRATE

- Synonyms: Trisodium phosphate, Sodium phosphate tribasic
- $\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$
- M = 380,12 g/mol
- CAS [10101-89-0]
- EINECS-No.: 231-509-8

- Solub. in water: (20 °C): 285 g/l
- Melting point: 75 °C
- LD 50 (oral, rat): 7400 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319


- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2835 23 00 00
- Applications: analytical chemistry, laboratory reagent, detergent, disinfectant.

 SO0340 tri-Sodium phosphate dodecahydrate, ExpertQ®, for analysis, ACS
 

assay (acidimetric) . . . . . 98,0 - 102,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 free alkali (as NaOH) . . . . . max. 2,5 %  
 chlorides (Cl) . . . . . max. 0,0005 %  
 fluorides (F) . . . . . max. 0,0005 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,005 %

heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO03400500	500 g	
SO03401000	1 kg	
SO0340005P	5 kg	
SO0340025P	25 kg	

 SO0347 tri-Sodium phosphate dodecahydrate, EssentQ®
 

ART. NO.	VOLUME	CONTAINER
SO03470500	500 g	
SO03471000	1 kg	

ART. NO.	VOLUME	CONTAINER
SO0347005P	5 kg	
SO0347025P	25 kg	

## TRI-SODIUM PHOSPHATE MONOHYDRATE

 SO0341 tri-Sodium phosphate monohydrate, EssentQ®
 

- Synonyms: Trisodium phosphate, Sodium phosphate tribasic
- $\text{Na}_3\text{PO}_4 \cdot \text{H}_2\text{O}$
- M = 181,96 g/mol
- EINECS-No.: 231-509-8
- Solub. in water: (20 °C): soluble
- LD 50 (oral, rat): 7400 mg/kg
- ADR: 8 C6 III UN 3262
- IMDG: 8 III UN 3262
- IATA/ICAO: 8 III UN 3262
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2835 23 00 00

- Applications: analytical chemistry, in food industry.

assay (acidimetric) . . . . . min. 98 %  
 insoluble in water . . . . . max. 0,05 %  
 chlorides (Cl) . . . . . max. 0,02 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,05 %  
 nitrogen compounds (as N) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,003 %  
 arsenic (As) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 0,003 %  
 lead (Pb) . . . . . max. 0,003 %  
 nickel (Ni) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
SO03411000	1 kg	
SO0341005P	5 kg	

## SODIUM PHOSPHINATE MONOHYDRATE

SO0435 Sodium phosphinate monohydrate, EssentQ®, Reag. Ph Eur

- Synonyms: Sodium hypophosphite monohydrate
- $\text{NaH}_2\text{PO}_2 \cdot \text{H}_2\text{O}$
- $M = 105,99 \text{ g/mol}$
- CAS [10039-56-2]
- EINECS-No.: 231-669-9
- Solub. in water: (20 °C): soluble
- Melting point: > 90 °C (decomposes)
- Tariff number: 2835 10 00 10
- Applications: analytical chemistry, laboratory reagent, in buffer solutions.

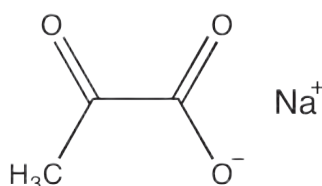
assay (bromometric) ..... min. 99 %  
 appearance of solution ..... passes test  
 acidity ..... passes test  
 chlorides (Cl) ..... max. 0,02 %  
 phosphates, phosphites ..... passes test  
 sulfates ( $\text{SO}_4$ ) ..... max. 0,02 %  
 arsenic (As) ..... max. 0,0002 %  
 calcium (Ca) ..... max. 0,02 %  
 heavy metals (as Pb) ..... max. 0,0005 %

iron (Fe) ..... max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
SO04350250	250 g	Ⓟ
SO04351000	1 kg	Ⓟ

## SODIUM PYRUVATE

SO0590 Sodium pyruvate, for microbiology



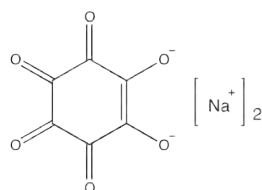
- Synonyms: Piruvic acid, sodium salt
- $\text{C}_3\text{H}_3\text{NaO}_3$
- $M = 110,05 \text{ g/mol}$
- CAS [113-24-6]
- EINECS-No.: 204-24-4
- Melting point: 220 - 230 °C
- LD 50 (oral, rat): 5600 mg/Kg
- Tariff number: 2918 30 00 90

assay (titration with  $\text{HClO}_4$ ) ..... min. 99 %  
 chlorides (Cl) ..... max. 0,002 %  
 sulfates ( $\text{SO}_4$ ) ..... max. 0,002 %  
 arsenic (As) ..... max. 1 ppm  
 heavy metals (as Pb) ..... max. 0,001 %  
 loss on drying (105 °C) ..... max. 0,5 %  
 suitability for microbiology ..... passes test

ART. NO.	VOLUME	CONTAINER
SO05900100	100 g	Ⓟ
SO05900500	500 g	Ⓟ
SO0590025P	25 kg	Ⓟ

## SODIUM RHODIZONATE

SO0615 Sodium rhodizonate, indicator for metal titration, ExpertQ®, for analysis



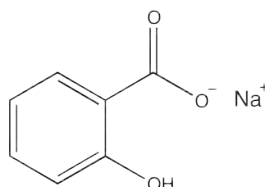
- Synonyms: 1,2-Dihydroxy-3,4,5,6-tetraoxo-1-cyclohexene disodium salt
- $\text{C}_6\text{Na}_2\text{O}_8$
- $M = 214,04 \text{ g/mol}$
- CAS [523-21-7]
- EINECS-No.: 208-340-3
- Solub. in water: (20 °C): sparingly soluble
- Tariff number: 2914 40 90 00
- Applications: analytical chemistry, indicator, for the detection of: barium, lead, tin, strontium, sulfates.

assay (titration with  $\text{HClO}_4$ ) ..... min. 98,5 %  
 identity (IR-spectrum) ..... passes test  
 suitability for detection of Ba ..... passes test  
 suitability as indicator for sulfate titration ..... passes test

ART. NO.	VOLUME	CONTAINER
SO06150001	1 g	Ⓟ

## SODIUM SALICYLATE

SO0633 Sodium salicylate, ExpertQ®, for analysis



- Synonyms: Salicylic acid sodium salt
- $\text{C}_7\text{H}_5\text{NaO}_3$
- $M = 160,11 \text{ g/mol}$
- CAS [54-21-7]
- EINECS-No.: 200-198-0
- Solub. in water: (20 °C): soluble
- Melting point: 200 °C
- Ignition temp.: > 250 °C
- LD 50 (oral, rat): 930 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302 - H319
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 2918 21 00 00
- Applications: analytical chemistry, for the detection of: glucose (urine).

assay (titration with  $\text{HClO}_4$ , on dried sample) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 appearance of solution (10 %,  $\text{H}_2\text{O}$ ) ..... passes test  
 insoluble in water ..... max. 0,02 %  
 chlorides (Cl) ..... max. 0,002 %  
 sulfates ( $\text{SO}_4$ ) ..... max. 0,01 %  
 cadmium (Cd) ..... max. 5 ppm  
 calcium (Ca) ..... max. 0,005 %  
 cobalt (Co) ..... max. 5 ppm  
 copper (Cu) ..... max. 5 ppm  
 heavy metals (as Pb) ..... max. 0,001 %  
 iron (Fe) ..... max. 0,001 %  
 lead (Pb) ..... max. 5 ppm  
 magnesium (Mg) ..... max. 0,001 %  
 nickel (Ni) ..... max. 5 ppm  
 zinc (Zn) ..... max. 5 ppm  
 loss on drying (105 °C) ..... max. 0,2 %

ART. NO.	VOLUME	CONTAINER
SO06330250	250 g	Ⓟ
SO06331000	1 kg	Ⓟ
SO0633005P	5 kg	Ⓟ
SO0633025P	25 kg	Ⓟ

## SODIUM SILICATE, NEUTRAL SOLUTION

SO0640 Sodium silicate, neutral solution, EssentQ®



- $\text{Na}_2\text{SiO}_3$
- $M = 122,07 \text{ g/mol}$
- CAS [1344-09-8]
- EINECS-No.: 215-687-4
- Density:  $1,37 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat):  $> 2000 \text{ mg/kg}$
- GHS-signal word: Danger
- GHS-H sentences: H318 - H302 - H335 - H315
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2839 19 00 00
- Applications: analytical chemistry, manufacturing of: detergent, in the textile industry, in the paper industry, manufacture of adhesives.

density (20°/4°).....1,350 - 1,380  
 pH (5 %,  $\text{H}_2\text{O}$ ) ..... < 11,5  
 copper (Cu) .....max. 0,005 %  
 lead (Pb).....max. 0,005 %  
 nickel (Ni).....max. 0,005 %

ART. NO.	VOLUME	CONTAINER
SO06401000	1 l	P
SO06402500	2,5 l	P
SO0640005P	5 l	P

## SODIUM SULFATE ANHYDROUS

- Synonyms: Sulfuric acid sodium salt
- $\text{Na}_2\text{SO}_4$
- $M = 142,04 \text{ g/mol}$
- CAS [7757-82-6]

- EINECS-No.: 231-820-9
- Solub. in water: (20 °C): 160 g/l
- Melting point: 888 °C
- Boiling point:  $> 890 \text{ °C}$  (decomposes)

- Tariff number: 2833 11 00 00
- Applications: analytical chemistry, organic solvents drying.

SO0662 Sodium sulfate anhydrous, granulated, EssentQ®

assay .....min. 99 %  
 insoluble in water.....max. 0,01 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) ..... 5,2 - 9,2  
 chlorides (Cl) .....max. 0,045 %  
 phosphates (as  $\text{PO}_4$ ) .....max. 0,001 %  
 nitrogen compounds (as N) .....max. 0,0005 %

calcium (Ca) .....max. 0,01 %  
 heavy metals (as Pb) .....max. 0,001 %  
 iron (Fe) .....max. 0,009 %  
 magnesium (Mg) .....max. 0,02 %  
 potassium (K) .....max. 0,01 %  
 loss on ignition (600 °C) .....max. 0,5 %

ART. NO.	VOLUME	CONTAINER
SO06621000	1 kg	P
SO0662005P	5 kg	P
SO0662025P	25 kg	P

SO0665 Sodium sulfate anhydrous, powder, extra pure, Pharmpur®, Ph Eur

assay (on dried sample).....98,5 - 101 %  
 identification .....passes test  
 appearance of solution .....clear and colourless  
 acidity or alkalinity .....passes test  
 chlorides (Cl) .....max. 0,045 %  
 calcium (Ca) .....max. 0,045 %  
 heavy metals (as Pb) .....max. 0,0045 %  
 iron (Fe) .....max. 0,009 %

magnesium (Mg) .....max. 0,02 %  
 loss on drying (130 °C) .....max. 0,5 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013

ART. NO.	VOLUME	CONTAINER
SO06650500	500 g	P
SO06651000	1 kg	P
SO06652500	2,5 kg	P
SO0665005P	5 kg	P
SO0665025P	25 kg	P

SO0664 Sodium sulfate anhydrous, powder, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay .....99 - 101 %  
 identification .....passes test  
 appearance of solution .....clear and colourless  
 insoluble matter .....max. 0,01 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) ..... 5,2 - 8,0  
 acidity or alkalinity .....passes test  
 nitrogen compounds (as N) .....max. 0,0005 %  
 chlorides (Cl) .....max. 0,001 %  
 phosphates (as  $\text{PO}_4$ ) .....max. 0,001 %

arsenic (As) .....max. 1 ppm  
 calcium (Ca) .....max. 0,005 %  
 heavy metals (as Pb) .....max. 0,0005 %  
 iron (Fe) .....max. 5 ppm  
 magnesium (Mg) .....max. 0,001 %  
 potassium (K) .....max. 0,002 %  
 zinc (Zn) .....max. 0,01 %  
 loss on ignition (600 °C) .....max. 0,5 %

ART. NO.	VOLUME	CONTAINER
SO06640500	500 g	P
SO06641000	1 kg	P
SO0664005P	5 kg	P

SO0667 Sodium sulfate anhydrous, granulated, ExpertQ®, for analysis, ACS, ISO

assay .....min. 99 %  
 identity .....passes test  
 appearance of solution (10 %,  $\text{H}_2\text{O}$ ) .....passes test  
 insoluble in water .....max. 0,01 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) ..... 5,2 - 8,0  
 acidity or alkalinity .....passes test  
 chlorides (Cl) .....max. 0,001 %  
 phosphates (as  $\text{PO}_4$ ) .....max. 0,001 %  
 total nitrogen (as N) .....max. 0,0005 %

arsenic (As) .....max. 1 ppm  
 calcium (Ca) .....max. 0,005 %  
 heavy metals (as Pb) .....max. 0,0005 %  
 iron (Fe) .....max. 5 ppm  
 magnesium (Mg) .....max. 0,001 %  
 potassium (K) .....max. 0,002 %  
 zinc (Zn) .....max. 0,002 %  
 loss on ignition (600 °C) .....max. 0,5 %

ART. NO.	VOLUME	CONTAINER
SO06670500	500 g	P
SO06671000	1 kg	P
SO06672500	2,5 kg	P
SO0667005P	5 kg	P
SO0667025P	25 kg	P

SO0670 Sodium sulfate anhydrous, for GC residue analysis

assay .....min. 99 %  
 loss on drying (105 °C) .....max. 0,2 %  
 suitable for pesticide residue analysis.

ART. NO.	VOLUME	CONTAINER
SO06701000	1 kg	P

ART. NO.	VOLUME	CONTAINER
SO0670005P	5 kg	P

**SODIUM SULFATE DECAHYDRATE**

SO0671 Sodium sulfate decahydrate, extra pure, Pharpur®, Ph Eur, BP, USP

- Synonyms: Glauber's salt
- Na<sub>2</sub>SO<sub>4</sub>·10H<sub>2</sub>O
- M = 322,19 g/mol
- CAS [7727-73-3]
- EINECS-No.: 231-820-9
- Solub. in water: (20 °C): ~ 900 g/l
- Melting point: 32,4 °C
- Boiling point: > 890 °C (anhydrous substance, decomposes)
- Tariff number: 2833 11 00 00
- Applications: analytical chemistry, laboratory reagent, in food industry (E 514), manufacture of dyes, in pharma industry.

assay (acidimetric, referred to dried sample) . . . . . 98,5 - 101,0 %  
 assay (referred to dried sample) . . . . . min. 99,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 acidity or alkalinity . . . . . passes test  
 chlorides (Cl) . . . . . max. 200 ppm  
 loss on drying . . . . . 52,0 - 57,0 %  
 loss on drying (105°C, 4h) . . . . . 51,0 - 57,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO06710500	500 g	P
SO06711000	1 kg	P
SO0671005P	5 kg	P
SO0671025P	25 kg	P

**SODIUM SULFIDE HYDRATE**

SO0673 Sodium sulfide hydrate, EssentQ® 

- Na<sub>2</sub>S·xH<sub>2</sub>O (x = 2 - 3)
- M = 78,04 g/mol
- CAS [27610-45-3]
- EINECS-No.: 608-114-8
- Melting point: 920 °C (anhydrous substance)
- LD 50 (oral, rat): 208 mg/kg (anhydrous substance)
- ADR: 6.1 TC4 II UN 3290
- IMDG: 6.1 II UN 3290
- IATA/ICAO: 6.1 II UN 3290

- GHS-signal word: Danger
- GHS-H sentences: H311 - H314 - H400 - H302 - EUH031
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2830 10 00 90

assay (iodometric, Na<sub>2</sub>S) . . . . . 60 - 65 %  
 carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 1,2 %  
 iron (Fe) . . . . . max. 0,001 %  
 sulfite and thiosulfate . . . . . max. 2 %

ART. NO.	VOLUME	CONTAINER
SO06730500	500 g	P
SO06731000	1 kg	P

**SODIUM SULFITE**


- Na<sub>2</sub>SO<sub>3</sub>
- M = 126,04 g/mol
- CAS [7757-83-7]
- EINECS-No.: 231-821-4
- Solub. in water: (20 °C): 220 g/l
- Melting point: > 500 °C (decomposes)
- LD 50 (oral, rat): 2610 mg/kg
- GHS-signal word: Danger
- GHS-H sentences: H334 - H317 - H413 - EUH031
- GHS-P sentences: P285 - P261 - P280 - P321 - P363 - P501a
- Tariff number: 2832 10 00 00
- Applications: analytical chemistry, laboratory reagent, solvents (in the cellulose industry), antibacterian, absorbent for: nitrogen oxides (gases).

SO0672 Sodium sulfite, extra pure, Pharpur®, Ph Eur, BP 

assay (iodometric) . . . . . 95,0 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . max. 0,1 %  
 iron (Fe) . . . . . max. 10 ppm  
 selenium (Se) . . . . . max. 10 ppm  
 zinc (Zn) . . . . . max. 25 ppm

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO06720500	500 g	P
SO06721000	1 kg	P
SO0672005P	5 kg	P
SO0672025P	25 kg	P

SO0669 Sodium sulfite, ExpertQ®, for analysis, ACS, Reag. Ph Eur 

assay (iodometric) . . . . . 98,0 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,005 %  
 acidity . . . . . passes test  
 alkalinity . . . . . max. 0,03 meq/g  
 chlorides (Cl) . . . . . max. 0,02 %  
 thiosulfates (S<sub>2</sub>O<sub>3</sub>) . . . . . max. 0,1 %

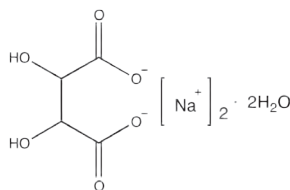
arsenic (As) . . . . . max. 1 ppm  
 copper (Cu) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 10 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 selenium (Se) . . . . . max. 10 ppm  
 zinc (Zn) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO06690500	500 g	P
SO06691000	1 kg	P
SO0669005P	5 kg	P







## DI-SODIUM TARTRATE DIHYDRATE

SO0700 di-Sodium tartrate dihydrate, ExpertQ®, for analysis, ACS



- Synonyms: Tartaric acid sodium salt dihydrate
- $C_4H_4Na_2O_6 \cdot 2H_2O$
- $M = 230,08 \text{ g/mol}$
- CAS [6106-24-7]
- EINECS-No.: 212-773-3
- Solub. in water: (20 °C): 290 g/l
- Melting point: 154 °C
- LD 50 (oral, rat): 1290 mg/kg
- Tariff number: 2918 13 00 90
- Applications: analytical chemistry, laboratory reagent.

assay (titration with  $HClO_4$ ) . . . . . 99,5 - 101,0 %  
 insoluble in water . . . . . max. 0,005 %  
 pH (5 %,  $H_2O$ ) . . . . . 7,0 - 8,0  
 chlorides (Cl) . . . . . max. 0,0005 %  
 phosphates (as  $PO_4$ ) . . . . . max. 0,0005 %  
 sulfates ( $SO_4$ ) . . . . . max. 0,002 %  
 total nitrogen (as N) . . . . . max. 0,002 %  
 ammonium ( $NH_4$ ) . . . . . max. 0,003 %  
 calcium (Ca) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 loss on drying (150 °C, min. 4h) . . . . . 15,61 - 15,71 %

ART. NO.	VOLUME	CONTAINER
SO07000250	250 g	
SO07000500	500 g	
SO07001000	1 kg	
SO0700005P	5 kg	


## DI-SODIUM TETRABORATE ANHYDROUS

SO0704 di-Sodium tetraborate anhydrous, EssentQ®



- Synonyms: Sodium baborate, Sodium borate, Borax
- $Na_2B_4O_7$
- $M = 201,22 \text{ g/mol}$
- CAS [1330-43-4]
- EINECS-No.: 215-540-4
- Solub. in water: (20 °C): 25,6 g/l
- Melting point: 742 °C
- Boiling point: 1575 °C (decomposes)
- Vapour pressure: (1200 °C) 7,3 hPa
- LD 50 (oral, rat): 2660 mg/kg (decahydrate substance)
- GHS-signal word: Danger
- GHS-H sentences: H360FD
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2840 11 00 00
- Applications: in radiology applications, synthesis of organic products, cosmetics, for pharmaceutical use.

assay (acidimetric) . . . . . min. 98 %  
 insoluble in water . . . . . max. 0,05 %  
 chlorides (Cl) . . . . . max. 0,05 %  
 phosphates (as  $PO_4$ ) . . . . . max. 0,005 %  
 sulfates ( $SO_4$ ) . . . . . max. 0,05 %  
 calcium (Ca) . . . . . max. 0,02 %  
 copper (Cu) . . . . . max. 0,005 %  
 heavy metals (as Pb) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,005 %  
 magnesium (Mg) . . . . . max. 0,02 %  
 nickel (Ni) . . . . . max. 0,005 %  
 potassium (K) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
SO07041000	1 kg	
SO0704005P	5 kg	
SO0704025P	25 kg	

## DI-SODIUM TETRABORATE DECAHYDRATE

SO0705 di-Sodium tetraborate decahydrate, extra pure, Phampur®, Ph Eur, BP, NF



- Synonyms: Borax, Sodium baborate decahydrate, Sodium borate decahydrate
  - $Na_2B_4O_7 \cdot 10H_2O$
  - $M = 381,37 \text{ g/mol}$
  - CAS [1303-96-4]
  - EINECS-No.: 215-540-4
  - Solub. in water: (20 °C): 51,4 g/l
  - Melting point: 75 °C
  - Boiling point: 1575 °C (anhydrous)
  - Vapour pressure: (20 °C) 0,213 hPa
  - LD 50 (oral, rat): 2660 mg/kg
  - GHS-signal word: Danger
  - GHS-H sentences: H319 - H360FD
  - GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
  - Tariff number: 2840 19 90 00
  - Applications: reference material, for calibrating pH-meters, for pharmaceutical use.
- assay (acidimetric) . . . . . 99,0 - 103,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 pH (4 %,  $H_2O$ ) . . . . . 9,0 - 9,6  
 carbonate, bicarbonate . . . . . passes test  
 sulfates ( $SO_4$ ) . . . . . max. 50 ppm  
 ammonium ( $NH_4$ ) . . . . . max. 10 ppm

- Solub. in water: (20 °C): 51,4 g/l
- Melting point: 75 °C
- Boiling point: 1575 °C (anhydrous)
- Vapour pressure: (20 °C) 0,213 hPa
- LD 50 (oral, rat): 2660 mg/kg
- GHS-signal word: Danger

- GHS-H sentences: H319 - H360FD
- GHS-P sentences: P281 - P201 - P202 - P308 + P313 - P405 - P501a
- Tariff number: 2840 19 90 00
- Applications: reference material, for calibrating pH-meters, for pharmaceutical use.

ART. NO.	VOLUME	CONTAINER
SO07050500	500 g	
SO07051000	1 kg	

arsenic (As) . . . . . max. 5 ppm  
 calcium (Ca) . . . . . max. 100 ppm  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

SO0707 di-Sodium tetraborate decahydrate, ExpertQ®, for analysis, ACS, ISO



assay (acidimetric) . . . . . 99,5 - 105,0 %  
 identity . . . . . passes test  
 appearance of solution . . . . . clear  
 insoluble in water . . . . . max. 0,005 %  
 pH (0,01 M, H<sub>2</sub>O) . . . . . 9,15 - 9,20  
 chlorides (Cl) . . . . . max. 0,001 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,005 %

ammonium (NH<sub>4</sub>) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 5 ppm  
 calcium (Ca) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 5 ppm

ART. NO.	VOLUME	CONTAINER
SO07070250	250 g	
SO07070500	500 g	
SO07071000	1 kg	
SO0707005P	5 kg	

## SODIUM TETRACHLOROAUROATE(III) DIHYDRATE

OR0060 Sodium tetrachloroaurate(III) dihydrate, EssentQ®



- Synonyms: Gold sodium chloride
- NaAuCl<sub>4</sub>·2H<sub>2</sub>O
- M = 397,80 g/mol
- CAS [13874-02-7]
- EINECS-No.: 240-948-4
- Solub. in water: (20 °C): 300 g/l
- GHS-signal word: Warning

- GHS-H sentences: H317
- GHS-P sentences: P261 - P280 - P321 - P363 - P333 + P513 - P501a
- Tariff number: 2843 30 00 00
- Applications: photography, in galvanotechnia.

Au content . . . . . 49,5 %

ART. NO.	VOLUME	CONTAINER
OR00600001	1 g	

## SODIUM THIOCYANATE

SO0675 Sodium thiocyanate, ExpertQ®, for analysis, ACS



- Synonyms: Sodium sulfocyanide, Sodium rhodanide
- NaSCN
- M = 81,07 g/mol
- CAS [540-72-7]
- EINECS-No.: 208-754-4
- Solub. in water: (20 °C): soluble
- Melting point: 310 °C
- LD 50 (oral, rat): 764 mg/kg
- EC-Index-No.: 615-004-00-3
- GHS-signal word: Warning
- GHS-H sentences: H302 - H312 - H332 - H412 - EUH032
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 2842 90 80 80
- Applications: analytical chemistry, synthesis of organic products (thiocyanates).

assay (argentometric) . . . . . min. 98 %  
 insoluble in water . . . . . max. 0,005 %  
 carbonates (as Na<sub>2</sub>CO<sub>3</sub>) . . . . . max. 0,2 %  
 chlorides (Cl) . . . . . max. 0,01 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 sulfides (S) . . . . . max. 0,001 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,002 %  
 heavy metals (as Pb) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 2 ppm  
 lead (Pb) . . . . . max. 5 ppm

ART. NO.	VOLUME	CONTAINER
SO06750500	500 g	
SO06751000	1 kg	

## SODIUM THIOSULFATE ANHYDROUS

SO0720 Sodium thiosulfate anhydrous, EssentQ®

- Synonyms: Antichlor
- Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>
- M = 158,10 g/mol
- CAS [7772-98-7]
- EINECS-No.: 231-867-5
- Solub. in water: (20 °C): 500 g/l
- Melting point: 48 °C
- Boiling point: 100 °C
- LD 50 (oral, rat): > 8000 mg/kg (pentahydrate)
- Tariff number: 2832 30 00 00
- Applications: analytical chemistry, titrant in volumetric analysis (iodometric analyses), photography, laboratory reagent, for determination of: cobalt, hydrocyanic acid, quinine.

assay (iodometric, on dried sample) . . . . . min. 98 %  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 6,0 - 8,5  
 chlorides (Cl) . . . . . max. 0,15 %  
 sulfates and sulfites (as SO<sub>4</sub>) . . . . . max. 0,5 %  
 sulfides (S) . . . . . max. 0,0005 %  
 calcium (Ca) . . . . . max. 0,004 %  
 cadmium (Cd) . . . . . max. 0,001 %  
 cobalt (Co) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 0,005 %  
 iron (Fe) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,001 %  
 nickel (Ni) . . . . . max. 0,001 %  
 zinc (Zn) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO07201000	1 kg	

## SODIUM THIOSULFATE PENTAHYDRATE

- Synonyms: Antichlor
- $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
- $M = 248,18 \text{ g/mol}$
- CAS [10102-17-7]
- EINECS-No.: 231-867-5

- Solub. in water: (20 °C): 680 g/l
- Melting point: 48,5 °C
- LD 50 (oral, rat): > 8000 mg/kg
- Tariff number: 2832 30 00 00

- Applications: analytical chemistry, titrant in volumetric analysis (iodometric analyses), photography, laboratory reagent, for determination of: cobalt, hydrocyanic acid, quinine.

### SO0725 Sodium thiosulfate pentahydrate, extra pure, Pharmapur®, Ph Eur, BP, USP

assay (iodometric, referred to dried sample) . . . . . 99,0 - 100,5 %  
 assay (iodometric) . . . . . 99,0 - 101,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 pH (10 %,  $\text{H}_2\text{O}$ ) . . . . . 6,0 - 8,4  
 sulfates and sulfites (as  $\text{SO}_3$ ) . . . . . max. 0,2 %

sulfides (S) . . . . . passes test  
 calcium (Ca) . . . . . passes test  
 water content . . . . . 32,0 - 37,0 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO07250500	500 g	P
SO07251000	1 kg	P
SO0725005P	5 kg	P
SO0725025P	25 kg	P

### SO0727 Sodium thiosulfate pentahydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur

assay (iodometric) . . . . . 99,5 - 101,0 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,005 %  
 pH (10 %,  $\text{H}_2\text{O}$ ) . . . . . 6,0 - 8,4  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 6,0 - 7,5  
 chlorides (Cl) . . . . . max. 0,008 %  
 sulfates and sulfites (as  $\text{SO}_3$ ) . . . . . max. 0,1 %  
 sulfides (S) . . . . . max. 2,5 ppm

sulfides (S) . . . . . passes test  
 nitrogen compounds (as N) . . . . . max. 0,002 %  
 calcium (Ca) . . . . . max. 0,002 %  
 copper (Cu) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 5 ppm  
 magnesium (Mg) . . . . . max. 0,001 %  
 potassium (K) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO07270500	500 g	P
SO07271000	1 kg	P
SO0727005P	5 kg	P
SO0727025P	25 kg	P

## SODIUM THIOSULFATE, VOLUMETRIC SOLUTIONS

### SO0730 Sodium thiosulfate, solution 1 mol/l (1 N)

- $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
- $M = 248,18 \text{ g/mol}$
- CAS [10102-17-7]
- EINECS-No.: 231-867-5
- Density: 1,12 g/cm<sup>3</sup>
- Tariff number: 2832 30 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, reducing agent.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 1 ml = 0,2482 g  $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO07301000	1 l	P
SO0730005P	5 l	P

### SO0729 Sodium thiosulfate, solution 0,5 mol/l (0,5 N)

- $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
- $M = 248,18 \text{ g/mol}$
- CAS [10102-17-7]
- EINECS-No.: 231-867-5
- Density: 1,06 g/cm<sup>3</sup>
- Tariff number: 2832 30 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, reducing agent.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 1 ml = 0,1241 g  $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO07291000	1 l	P

### SO0732 Sodium thiosulfate, solution 0,282 mol/l (0,282 N)

- $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
- $M = 248,18 \text{ g/mol}$
- CAS [10102-17-7]
- EINECS-No.: 231-867-5
- Density: 1,03 g/cm<sup>3</sup>
- Tariff number: 2832 30 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, reducing agent.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 1 ml = 0,06999 g  $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO07321000	1 l	P

## SO0736 Sodium thiosulfate, solution 0,2 mol/l (0,2 N)

- $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
- $M = 248,18 \text{ g/mol}$
- CAS [10102-17-7]
- EINECS-No.: 231-867-5
- Density:  $\sim 1,01 \text{ g/cm}^3$
- Tariff number: 2832 30 00 00




factor . . . . . 0,999 - 1,001  
 1 ml = 0,04963 g  $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO07361000	1 l	

## SO0731 Sodium thiosulfate, solution 0,1 mol/l (0,1 N)

- $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
- $M = 248,18 \text{ g/mol}$
- CAS [10102-17-7]
- EINECS-No.: 231-867-5
- Density:  $\sim 1,004 \text{ g/cm}^3$
- Tariff number: 2832 30 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, reducing agent.



factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 1 ml = 0,0248 g  $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO07311000	1 l	
SO0731005P	5 l	
SO0731010C	10 l	

## SO0737 Sodium thiosulfate, solution 0,05 mol/l (0,05 N)

- $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
- $M = 248,18 \text{ g/mol}$
- CAS [10102-17-7]
- EINECS-No.: 231-867-5
- Density:  $1,001 \text{ g/cm}^3$
- Tariff number: 2832 30 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, reducing agent.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 1 ml = 0,01241 g  $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's potassium iodate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO07371000	1 l	
SO0737005P	5 l	

## SO0733 Sodium thiosulfate, solution 0,01 mol/l (0,01 N)

- $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
- $M = 248,18 \text{ g/mol}$
- CAS [10102-17-7]
- EINECS-No.: 231-867-5
- Density:  $0,997 \text{ g/cm}^3$
- Tariff number: 2832 30 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, reducing agent.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 1 ml = 0,002482 g  $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$   
 This volumetric solution was checked by means of potentiometric methods using an iodine standard solution, that was also checked against Scharlau's sodium thiosulfate volumetric standard solution. Scharlau's volumetric standard solutions are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO07331000	1 l	

## SO0734 Sodium thiosulfate, solution 0,002 mol/l (0,002 N)

- $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
- $M = 248,18 \text{ g/mol}$
- CAS [10102-17-7]
- EINECS-No.: 231-867-5
- Density:  $1,00 \text{ g/cm}^3$
- Tariff number: 2832 30 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, reducing agent.

factor . . . . . 0,995 - 1,005  
 uncertainty  $\pm 0,002$   
 1 ml = 0,0004964 g  $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$   
 This volumetric solution was checked by means of potentiometric methods using an iodine standard solution, that was also checked against Scharlau's sodium thiosulfate volumetric standard solution. Scharlau's volumetric standard solutions are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
SO07341000	1 l	

## SO0728 Sodium thiosulfate, concentrated solution to prepare 1 l of solution 0,1 mol/l (0,1 N)

- $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
- $M = 248,18 \text{ g/mol}$
- CAS [10102-17-7]
- EINECS-No.: 231-867-5
- Density:  $\sim 1,22 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible

- Tariff number: 2832 30 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, reducing agent.

amount of substance: 24,818 g  $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$   
 concentrated solution . . . . . 1 mol/l  $\pm 0,1 \%$

ART. NO.	VOLUME	CONTAINER
SO072800PA	u.	

## SO0738 Sodium thiosulfate, concentrated solution to prepare 1 l of solution 0,01mol/l (0,01N)

- Synonyms: Antichlor
- $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
- M = 248,18 g/mol
- CAS [10102-17-7]
- EINECS-No.: 231-867-5
- Density: ~ 1,02 g/cm<sup>3</sup>

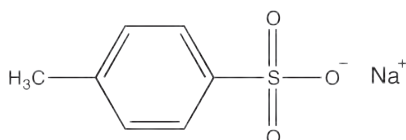
- Solub. in water: (20 °C): miscible
- Tariff number: 2832 30 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, reducing agent.

amount of substance: 2,4818 g  $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$   
concentrated solution . . . . . 0,1 mol/l ± 0,1 %

ART. NO.	VOLUME	CONTAINER
SO073800PA	u.	Ø

## SODIUM P-TOLUENSULFONATE

## SO0755 Sodium p-toluensulfonate, EssentQ®



- Synonyms: 4-Toluenesulfonic acid sodium salt, p-Toluenesulfonic acid sodium salt
- $\text{C}_7\text{H}_7\text{NaO}_3\text{S}$
- M = 194,19 g/mol
- CAS [657-84-1]
- EINECS-No.: 211-522-5
- Solub. in water: (20 °C): soluble
- Tariff number: 2904 10 00 90
- Applications: synthesis of organic products, laboratory reagent, photography.

assay (acidimetric) . . . . . min. 98 %

ART. NO.	VOLUME	CONTAINER
SO07550250	250 g	Ø

## SODIUM TRIPOLYPHOSPHATE ANHYDROUS

## SO0780 Sodium tripolyphosphate anhydrous, EssentQ®

- Synonyms: Sodium triphosphate
- $\text{Na}_5\text{P}_3\text{O}_{10}$
- M = 367,86 g/mol
- CAS [7758-29-4]
- EINECS-No.: 231-838-7
- Solub. in water: (20 °C): 150 g/l
- Melting point: 622 °C
- Vapour pressure: (20 °C) < 0,1 hPa

- LD 50 (oral, rat): 3900 mg/kg
- Tariff number: 2835 31 00 00
- Applications: synthesis of organic products, in food industry, emulsifier, preservative agent, for determination of: BOD.

assay (acidimetric, as  $\text{P}_2\text{O}_5$ ) . . . . . 57 - 59 %  
pH (1 %,  $\text{H}_2\text{O}$ ) . . . . . 9 - 10  
iron (Fe) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
SO07801000	1 kg	Ø

## SODIUM TUNGSTATE DIHYDRATE

SO0795 Sodium tungstate dihydrate, ExpertQ®, for analysis, ACS 

- Synonyms: Sodium wolframate dihydrate
- $\text{Na}_2\text{WO}_4 \cdot 2\text{H}_2\text{O}$
- M = 329,86 g/mol
- CAS [10213-10-2]
- EINECS-No.: 236-743-4
- Solub. in water: (20 °C): ~ 730 g/l
- Melting point: 100 °C (release of crystalline water)
- LD 50 (oral, rat): 1190 mg/kg (anhydrous substance)
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2841 80 00 00

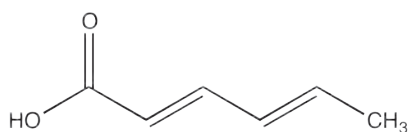
- Applications: analytical chemistry (precipitant for: alkaloids, blood sugar, uric acid), for biology.

assay (gravimetric) . . . . . 99,0 - 101,0 %  
identity (IR-spectrum) . . . . . passes test  
insoluble in water . . . . . max. 0,01 %  
alkalinity . . . . . max. 0,02 meq/g  
chlorides (Cl) . . . . . max. 0,003 %  
sulfates ( $\text{SO}_4$ ) . . . . . max. 0,01 %  
heavy metals and iron (as Pb) . . . . . max. 0,001 %  
lead (Pb) . . . . . max. 0,001 %  
molybdenum (Mo) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
SO07950100	100 g	Ø
SO07950250	250 g	Ø

## SORBIC ACID

AC2032 Sorbic acid, EssentQ®



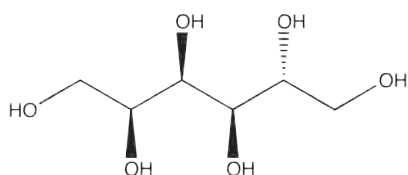
- Synonyms: 2,4-Hexadienoic acid
- $C_6H_8O_2$
- $M = 112,13$  g/mol
- CAS [110-44-1]
- EINECS-No.: 203-768-7
- Solub. in water: (20 °C): 1,6 g/l
- Melting point: 132 - 135 °C
- Boiling point: ~ 228 °C (decomposes)
- Flash pt. ~ 127 °C
- Vapour pressure: (20 °C) ~ 0,01 hPa
- LD 50 (oral, rat): 7360 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P304 + P340 - P405 - P501a
- Tariff number: 2916 19 30 00
- Applications: laboratory reagent, synthesis of organic products, in food industry (E 200), preservative agent.

assay (acidimetric) . . . . . min. 99,5 %  
residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AC20321000	1 kg	Ⓜ

## D(-)-SORBITOL

SO0850 D(-)-Sorbitol, extra pure, Pharmpur®, Ph Eur, BP, NF



- Synonyms: D-Glucitol, Karion
- $C_6H_{14}O_6$
- $M = 182,17$  g/mol
- CAS [50-70-4]
- EINECS-No.: 200-061-5
- Solub. in water: (20 °C): soluble
- Melting point: 94 - 96 °C
- Flash pt. > 100 °C
- Ignition temp.: > 150 °C
- LD 50 (oral, rat): 15900 mg/kg
- Tariff number: 2905 44 91 00
- Applications: analytical chemistry, in food industry, for pharmaceutical use, synthesis of organic products, in pharma industry.

assay (HPLC) . . . . . 97,0 - 100,5 %  
identification . . . . . passes test  
appearance of solution . . . . . clear and colourless  
conductivity (20°C; 20%, in H<sub>2</sub>O) . . . . . max. 20 µS/cm  
pH (10 %, H<sub>2</sub>O) . . . . . 3,5 - 7,0  
nickel (Ni) . . . . . max. 1 ppm  
reducing sugars (as glucose) . . . . . max. 0,2 %  
related substances . . . . . passes test  
microbiological test . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
water (K.F.) . . . . . max. 1,5 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO08500250	250 g	Ⓜ
SO08501000	1 kg	Ⓜ
SO0850005P	5 kg	Ⓜ
SO0850025P	25 kg	Ⓜ

## STANDARDS, AA, ACCORDING TO ISO 17025

AL0755 Aluminium, standard solution 1000 mg/l Al for AA (Al(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2%)



- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration . . . . . 995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
AL07550100	100 ml	Ⓜ
AL07550500	500 ml	Ⓜ





A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z



**AN0442 Antimony, standard solution 1000 mg/l Sb for AA (Sb in HCl 20%)** 

- Density: 1,05 g/cm<sup>3</sup>
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
AN04420100	100 ml	
AN04420500	500 ml	


**AR0152 Arsenic, standard solution 1000 mg/l As for AA (As<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)**  

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H350 - H315 - H319
- GHS-P sentences: P280 - P281 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
AR01520100	100 ml	
AR01520500	500 ml	

**BA0011 Barium, standard solution 1000 mg/l Ba for AA (Ba(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2%)** 

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
BA00110100	100 ml	
BA00110500	500 ml	

**BI0131 Bismuth, standard solution 1000 mg/l Bi for AA (Bi in HNO<sub>3</sub> 10%)** 

- Density: 1,05 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.



concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
BI01310100	100 ml	
BI01310500	500 ml	

**BO0014 Boron, standard solution 1000 mg/l B for AA (H<sub>3</sub>BO<sub>3</sub> in H<sub>2</sub>O)**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 2810 00 90 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
BO00140100	100 ml	
BO00140500	500 ml	


**CA0042 Cadmium, standard solution 1000 mg/l Cd for AA (Cd in HNO<sub>3</sub> 2%)** 

- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H412
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
CA00420100	100 ml	
CA00420500	500 ml	


**CA0177 Calcium, standard solution 1000 mg/l Ca for AA (CaCO<sub>3</sub> in HNO<sub>3</sub> 2%)** 

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
CA01770100	100 ml	
CA01770500	500 ml	

**CR0223 Chromium, standard solution 1000 mg/l Cr for AA (Cr(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2%)** 

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
CR02230100	100 ml	
CR02230500	500 ml	

**CO0016 Cobalt, standard solution 1000 mg/l Co for AA (Co in HNO<sub>3</sub> 2%)** 

- Density: 1,02 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - EUH208
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
CO00160100	100 ml	
CO00160500	500 ml	

**CO0086 Copper, standard solution 1000 mg/l Cu for AA (Cu in HNO<sub>3</sub> 2%)** 

- Density: 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H412
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CO00860100	100 ml	
CO00860500	500 ml	

**OR0058 Gold, standard solution 1000 mg/l Au for AA (Au in HCl 2%)** 

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H290
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
OR00580100	100 ml	
OR00580500	500 ml	

**HI0305 Iron, standard solution 1000 mg/l Fe for AA (Fe(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2%)** 


- Density: ~ 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
HI03050100	100 ml	
HI03050500	500 ml	

A  
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M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**PL0106 Lead, standard solution 1000 mg/l Pb for AA (Pb(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2%)** 

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
PL01060100	100 ml	
PL01060500	500 ml	


**LI0061 Lithium, standard solution 1000 mg/l Li for AA (Li<sub>2</sub>CO<sub>3</sub> in HNO<sub>3</sub> 2%)** 

- Density: 1,02 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
LI00610100	100 ml	
LI00610500	500 ml	


**MA0012 Magnesium, standard solution 1000 mg/l Mg for AA (Mg in HNO<sub>3</sub> 2%)** 

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 -
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MA00120100	100 ml	
MA00120500	500 ml	




**MA0112 Manganese, standard solution 1000 mg/l Mn for AA (Mn in HNO<sub>3</sub> 2%)** 

- Density: 1,02 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MA01120100	100 ml	
MA01120500	500 ml	

**ME0112 Mercury, standard solution 1000 mg/l Hg for AA (Hg(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 10%)**   

- Density: ~ 1,05 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H314 - H272 - H373
- GHS-P sentences: P221 - P210 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
ME01120100	100 ml	
ME01120500	500 ml	

**MO0022 Molybdenum, standard solution 1000 mg/l Mo for AA ((NH<sub>4</sub>)<sub>6</sub>Mo<sub>7</sub>O<sub>24</sub> in H<sub>2</sub>O)**

- Density: ~ 1,0 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MO00220100	100 ml	
MO00220500	500 ml	

**NI0122 Nickel, standard solution 1000 mg/l Ni for AA (Ni in HNO<sub>3</sub> 2%)**



- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - EUH208
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
NI01220100	100 ml	Ⓜ
NI01220500	500 ml	Ⓜ

**PO0106 Potassium, standard solution 1000 mg/l K for AA (KNO<sub>3</sub> in HNO<sub>3</sub> 2%)**



- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
PO01060100	100 ml	Ⓜ
PO01060500	500 ml	Ⓜ

**SE0012 Selenium, standard solution 1000 mg/l Se for AA (Se in HNO<sub>3</sub> 2%)**



- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SE00120100	100 ml	Ⓜ
SE00120500	500 ml	Ⓜ

**SI0013 Silicon, standard solution 1000 mg/l Si for AA ((NH<sub>4</sub>)<sub>2</sub>SiF<sub>6</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SI00130100	100 ml	Ⓜ
SI00130500	500 ml	Ⓜ

**PL0006 Silver, standard solution 1000 mg/l Ag for AA (Ag in HNO<sub>3</sub> 2%)**



- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
PL00060100	100 ml	Ⓜ
PL00060500	500 ml	Ⓜ

**SO0006 Sodium, standard solution 1000 mg/l Na for AA (NaNO<sub>3</sub> in HNO<sub>3</sub> 2%)**




- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SO00060100	100 ml	Ⓜ
SO00060500	500 ml	Ⓜ



A  
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N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z


**ES0178** Strontium, standard solution 1000 mg/l Sr for AA ( $\text{Sr}(\text{NO}_3)_2$  in  $\text{HNO}_3$  2%) 

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 -
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration: . . . . .995 - 1005 mg/l  
uncertainty  $\pm$  5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
ES01780100	100 ml	
ES01780500	500 ml	



**ES0062** Tin, standard solution 1000 mg/l Sn for AA ( $\text{Sn}$  in  $\text{HCl}$  20%) 

- Density: 1,08 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration: . . . . .995 - 1005 mg/l  
uncertainty  $\pm$  5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
ES00620100	100 ml	
ES00620500	500 ml	


**TU0012** Tungsten, standard solution 1000 mg/l W for AA ( $\text{W}$  in  $\text{HNO}_3$  1% +  $\text{HF}$  2%)  

- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 CT1 II UN 2922
- IMDG: 8 II UN 2922
- IATA/ICAO: 8 II UN 2922
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration: . . . . .995 - 1005 mg/l  
uncertainty  $\pm$  5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
TU00120100	100 ml	
TU00120500	500 ml	


**VA0072** Vanadium, standard solution 1000 mg/l V for AA ( $\text{NH}_4\text{VO}_3$  in  $\text{HNO}_3$  2%) 

- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration: . . . . .995 - 1005 mg/l  
uncertainty  $\pm$  5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
VA00720100	100 ml	
VA00720500	500 ml	

**Cl0127** Zinc, standard solution 1000 mg/l Zn for AA ( $\text{Zn}$  in  $\text{HNO}_3$  2%) 


- Density: 1,02 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration: . . . . .995 - 1005 mg/l  
uncertainty  $\pm$  5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
Cl01270100	100 ml	
Cl01270500	500 ml	



## STANDARDS, AA

**AL0751** Aluminium, standard solution 1000 mg/l Al for AA (aluminium nitrate nonahydrate in nitric acid 0,5 mol/l) 

- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, atomic absorption analysis.

concentration: . . . . .995 - 1005 mg/l  
uncertainty  $\pm$  5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
AL07510100	100 ml	
AL07510500	500 ml	

**AN0440 Antimony, standard solution 1000 mg/l Sb for AA (antimony(III) chloride in hydrochloric acid 5 mol/l)**



- Density: ~ 1,08 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
AN04400100	100 ml	Ⓜ
AN04400500	500 ml	Ⓜ

**AR0151 Arsenic, standard solution 1000 mg/l As for AA (arsenic(III) oxide in nitric acid 0,5 mol/l)**



- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H350 - H315 - H319
- GHS-P sentences: P280 - P281 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2811 19 80 90
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
AR01510100	100 ml	Ⓜ
AR01510500	500 ml	Ⓜ

**BA0010 Barium, standard solution 1000 mg/l Ba for AA (barium nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
BA00100100	100 ml	Ⓜ
BA00100500	500 ml	Ⓜ

**BI0130 Bismuth, standard solution 1000 mg/l Bi for AA (bismuth(III) nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
BI01300100	100 ml	Ⓜ
BI01300500	500 ml	Ⓜ

**BO0013 Boron, standard solution 1000 mg/l B for AA (boric acid in water)**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 2810 00 90 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
BO00130100	100 ml	Ⓜ
BO00130500	500 ml	Ⓜ

**CA0041 Cadmium, standard solution 1000 mg/l Cd for AA (cadmium nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H412
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CA00410100	100 ml	Ⓜ
CA00410500	500 ml	Ⓜ





A  
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R  
S  
T  
U  
V  
W  
X  
Y  
Z


**CA0176 Calcium, standard solution 1000 mg/l Ca for AA (calcium nitrate in nitric acid 0,5 mol/l)** 

- Density: ~ 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
CA01760100	100 ml	
CA01760500	500 ml	



**CR0222 Chromium, standard solution 1000 mg/l Cr for AA (chromium(III) nitrate in nitric acid 0,5 mol/l)** 

- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
CR02220100	100 ml	
CR02220500	500 ml	


**CO0012 Cobalt, standard solution 1000 mg/l Co for AA (cobalt nitrate in nitric acid 0,5 mol/l)**  

- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H350i - H360F -
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
CO00120100	100 ml	
CO00120500	500 ml	


**CO0085 Copper, standard solution 1000 mg/l Cu for AA (copper(II) nitrate in nitric acid 0,5 mol/l)** 

- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H412
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.



concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
CO00850100	100 ml	
CO00850500	500 ml	

**OR0057 Gold, standard solution 1000 mg/l Au for AA (Gold(III) trichloride acid in hydrochloric acid 2 mol/l)** 

- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H290
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
Avoid exposure to light  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
OR00570100	100 ml	
OR00570500	500 ml	

**HI0302 Iron, standard solution 1000 mg/l Fe for AA (iron(III) nitrate nonahydrate in nitric acid 0,5 mol/l)** 

- Density: ~ 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
HI03020100	100 ml	
HI03020500	500 ml	



**PL0105 Lead, standard solution 1000 mg/l Pb for AA (lead(II) nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
PL01050100	100 ml	
PL01050500	500 ml	

**LI0060 Lithium, standard solution 1000 mg/l Li for AA (lithium nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
LI00600100	100 ml	
LI00600500	500 ml	


**MA0011 Magnesium, standard solution 1000 mg/l Mg for AA (magnesium nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MA00110100	100 ml	
MA00110500	500 ml	

**MA0111 Manganese, standard solution 1000 mg/l Mn for AA (manganese nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MA01110100	100 ml	
MA01110500	500 ml	

**ME0111 Mercury, standard solution 1000 mg/l Hg for AA (mercury(II) nitrate monohydrate in nitric acid 2 mol/l)**



- Density: ~ 1,05 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 CT1 II UN 2922
- IMDG: 8 II UN 2922
- IATA/ICAO: 8 II UN 2922
- GHS-signal word: Danger
- GHS-H sentences: H314 - H373 -
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
ME01110100	100 ml	
ME01110500	500 ml	

**MO0021 Molybdenum, standard solution 1000 mg/l Mo for AA (ammonium heptamolybdate in water)**

- Density: ~ 1,0 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MO00210100	100 ml	
MO00210500	500 ml	

A  
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H  
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K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**NI0121 Nickel, standard solution 1000 mg/l Ni for AA (nickel(II) nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - EUH208
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
NI01210100	100 ml	Ⓜ
NI01210500	500 ml	Ⓜ

**PO0105 Potassium, standard solution 1000 mg/l K for AA (potassium nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
PO01050100	100 ml	Ⓜ
PO01050500	500 ml	Ⓜ

**SE0011 Selenium, standard solution 1000 mg/l Se for AA (selenium dioxide in nitric acid 0,5 mol/l)**



- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SE00110100	100 ml	Ⓜ
SE00110500	500 ml	Ⓜ

**SI0012 Silicon, standard solution 1000 mg/l Si for AA (ammonium hexafluorosilicate in water)**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 128 mg/kg (pure substance)
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SI00120100	100 ml	Ⓜ
SI00120500	500 ml	Ⓜ

**PL0005 Silver, standard solution 1000 mg/l Ag for AA (silver nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
PL00050100	100 ml	Ⓜ
PL00050500	500 ml	Ⓜ

**SO0005 Sodium, standard solution 1000 mg/l Na for AA (sodium nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SO00050100	100 ml	Ⓜ
SO00050500	500 ml	Ⓜ

**ES0177 Strontium, standard solution 1000 mg/l Sr for AA (strontium nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
ES01770100	100 ml	Ⓜ
ES01770500	500 ml	Ⓜ

**ES0061 Tin, standard solution 1000 mg/l Sn for AA (tin(IV) chloride in hydrochloric acid 5 mol/l)**



- Density: 1,08 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
ES00610100	100 ml	Ⓜ
ES00610500	500 ml	Ⓜ

**Ti0360 Titanium, standard solution 1000 mg/l Ti for AA (titanium(IV) chloride in hydrochloric acid 5 mol/l)**



- Density: ~ 1,08 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
Ti03600100	100 ml	Ⓜ
Ti03600500	500 ml	Ⓜ

**TU0011 Tungsten, standard solution 1000 mg/l W for AA (ammonium tungstate in water)**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
TU00110100	100 ml	Ⓜ
TU00110500	500 ml	Ⓜ

**VA0071 Vanadium, standard solution 1000 mg/l V for AA (ammonium monovanadate in nitric acid 0,5 mol/l)**



- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
VA00710100	100 ml	Ⓜ
VA00710500	500 ml	Ⓜ

**CI0126 Zinc, standard solution 1000 mg/l Zn for AA (zinc nitrate in nitric acid 0,5 mol/l)**



- Density: ~ 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, atomic absorption analysis.

concentration. . . . .995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CI01260100	100 ml	Ⓜ
CI01260500	500 ml	Ⓜ

## STANDARDS, BUFFER SOLUTIONS FOR pH-METER CALIBRATION

### KT0001 Buffer solution pH= 4,00, 7,00, 10,00 (20 °C), coloured MIX

- Tariff number: 3822 00 00 00

pH (red) at 20°C ..... 4,00  
uncertainty ± 0,01 Composition per litre is 10,21 g Potassium hydrogen phthalate.  
Contains preservative.

T (°C)	pH
0	4,01
5	4,00
10	4,00
15	4,00
20	4,00
25	4,01
30	4,02
35	4,03
40	4,04
45	4,05
50	4,06

pH (yellow) at 20 °C ..... 7,00  
uncertainty ± 0,01  
Composition per litre is 3,54 g Potassium dihydrogen phosphate and 14,7 g di-Sodium hydrogen phosphate.  
Contains preservative.

T (°C)	pH
0	7,13
5	7,07
10	7,05
15	7,02
20	7,00
25	6,98
30	6,98
35	6,96
40	6,95
45	6,95
50	6,95

pH (blue) at 20 °C ..... 10,00  
uncertainty ± 0,02 Composition per litre is 2,64 g Sodium carbonate and 2,09g Sodium hydrogen carbonate.

T (°C)	pH
0	10,25
5	10,18
10	10,12
15	10,06
20	10,00
25	9,97
30	9,93
35	9,91
40	9,89
45	9,83
50	9,78

ART. NO.	VOLUME	CONTAINER
KT00016000	6x1l	Ⓟ

### SO1101 Buffer solution pH = 1,00 (20 °C) (Hydrochloric acid/Sodium chloride)

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C ..... 1,00  
uncertainty ± 0,01  
Composition per litre is 0,17 g Glycine, 0,13 g Sodium chloride and 11ml Hydrochloric acid concentrated.  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	0,96
5	0,99
10	0,99
15	0,99
20	1,00
25	1,01
30	1,01
35	1,01
40	1,01
45	1,01
50	1,01

ART. NO.	VOLUME	CONTAINER
SO11010250	250 ml	Ⓟ
SO11011000	1 l	Ⓟ

### SO1022 Buffer solution pH = 2,00 (20 °C) (Citric acid/Sodium hydroxide/Hydrochloric acid)

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C ..... 2,00  
uncertainty ± 0,01  
Composition per litre is 6,43 g Citric acid, 2,40 g Sodium hydroxide and 6,13 ml Hydrochloric acid.  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	2,01
5	2,01
10	2,01
15	2,00
20	2,00
25	2,00
30	2,00
35	2,00
40	2,00
45	2,00
50	2,00

ART. NO.	VOLUME	CONTAINER
SO10220250	250 ml	Ⓟ
SO10221000	1 l	Ⓟ

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**SO1023 Buffer solution pH = 3,00 (20 °C) (ortho-Phosphoric acid/Sodium hydroxide)**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C . . . . . 3,00  
 uncertainty ± 0,01  
 Composition per litre is 0,7 ml  
 ortho- Phosphoric acid concentrated and 15 ml  
 Sodium hydroxide concentrated  
 Standard buffer solutions are prepared using  
 gravimetric and volumetric procedures. The  
 batch value is determined by measurement with  
 a combination glass electrode against five-point  
 calibration according to DIN 19268. This pH buffer  
 solution is traceable to Standard Reference Material  
 from NIST.

T (°C)	pH
0	2,96
5	2,96
10	2,97
15	2,98
20	3,00
25	3,01
30	3,01
35	3,01
40	3,01
45	3,01
50	3,01

ART. NO.	VOLUME	CONTAINER
SO10230250	250 ml	Ⓟ
SO10231000	1 l	Ⓟ

**SO1004 Buffer solution pH = 4,00 (20 °C) (Potassium hydrogen phthalate)**

- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: for calibrating pH-meters, analytical chemistry.

pH at 20 °C . . . . . 4,00  
 uncertainty ± 0,01  
 Composition per litre is 10,21 g  
 Potassium hydrogen phthalate.  
 Contains preservative.  
 Standard buffer solutions are prepared using  
 gravimetric and volumetric procedures. The  
 batch value is determined by measurement with  
 a combination glass electrode against five-point  
 calibration according to DIN 19268. This pH buffer  
 solution is traceable to Standard Reference Material  
 from NIST.

T (°C)	pH
0	4,00
5	4,00
10	4,00
15	4,00
20	4,00
25	4,01
30	4,02
35	4,03
40	4,04
45	4,05
50	4,06

ART. NO.	VOLUME	CONTAINER
SO10040250	250 ml	Ⓟ
SO10040500	500 ml	Ⓟ
SO10041000	1 l	Ⓟ
SO1004005P	5 l	Ⓟ
SO1004010C	10 l	Ⓟ
SO1004025P	25 l	Ⓟ

**SO1005 Buffer solution pH = 4,01 (20 °C) (Potassium hydrogen phthalate)**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C . . . . . 4,01  
 uncertainty ± 0,01  
 Composition per litre is 10,3 g  
 Potassium hydrogen phthalate.  
 Contains preservative.  
 Standard buffer solutions are prepared using  
 gravimetric and volumetric procedures. The  
 batch value is determined by measurement with  
 a combination glass electrode against five-point  
 calibration according to DIN 19268. This pH buffer  
 solution is traceable to Standard Reference Material  
 from NIST.

T (°C)	pH
0	4,00
5	4,00
10	4,00
15	4,00
20	4,01
25	4,01
30	4,02
35	4,02
40	4,03
45	4,05
50	4,05

ART. NO.	VOLUME	CONTAINER
SO10050250	250 ml	Ⓟ
SO10051000	1 l	Ⓟ

**SO1025 Buffer solution pH = 5,00 (20 °C) (Acetic acid/Potassium hydroxide)**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C . . . . . 5,00  
 uncertainty ± 0,01  
 Composition per litre is 0,7ml  
 Acetic acid glacial and 0,6 g  
 Potassium hydroxide.  
 Contains preservative.  
 Standard buffer solutions are prepared using  
 gravimetric and volumetric procedures. The  
 batch value is determined by measurement with  
 a combination glass electrode against five-point  
 calibration according to DIN 19268. This pH buffer  
 solution is traceable to Standard Reference Material  
 from NIST.

T (°C)	pH
0	4,97
5	4,98
10	4,99
15	5,00
20	5,00
25	5,01
30	5,01
35	5,02
40	5,02
45	5,03
50	5,03

ART. NO.	VOLUME	CONTAINER
SO10250250	250 ml	Ⓟ
SO10251000	1 l	Ⓟ
SO1025025P	25 l	Ⓟ



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

### SO1006 Buffer solution pH = 6,00 (20 °C) (Potassium dihydrogen phosphate/Sodium hydroxide)

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C ..... 6,00  
uncertainty ± 0,01  
Composition per litre is 6,8 g Potassium dihydrogen phosphate and 5,7 ml. Potassium hydroxide 1 N. Contains preservative. Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	6,06
5	6,04
10	6,02
15	6,01
20	6,00
25	5,99
30	5,99
35	5,98
40	5,98
45	5,96
50	5,95

ART. NO.	VOLUME	CONTAINER
SO10060250	250 ml	Ⓟ
SO10061000	1 l	Ⓟ

### SO1007 Buffer solution pH = 7,00 (20 °C) (Potassium dihydrogen phosphate/di-Sodium hydrogen phosphate)

- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -5 °C
- Boiling point: 109 °C
- Tariff number: 3822 00 00 00
- Applications: to fit pH of the reaction media, for calibrating pH-meters, analytical chemistry.

pH at 20 °C ..... 7,00  
uncertainty ± 0,01  
Composition per litre is 3,54 g Potassium dihydrogen phosphate and 14,7 g di-Sodium hydrogen phosphate. Contains preservative. Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	7,13
5	7,07
10	7,05
15	7,02
20	7,00
25	6,98
30	6,98
35	6,96
40	6,95
45	6,95
50	6,95

ART. NO.	VOLUME	CONTAINER
SO10070250	250 ml	Ⓟ
SO10070500	500 ml	Ⓟ
SO10071000	1 l	Ⓟ
SO1007005P	5 l	Ⓟ
SO1007010C	10 l	Ⓟ
SO1007025P	25 l	Ⓟ

### SO1008 Buffer solution pH = 7,02 (20 °C)(Potassium dihydrogen phosphate/di-Sodium hydrogen phosphate)

- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -5 °C
- Boiling point: 109 °C
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C ..... 7,02  
uncertainty ± 0,01  
Composition per litre is 3,54 g Potassium dihydrogen phosphate and 14,7 g di-Sodium hydrogen phosphate. Contains preservative. Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	7,12
5	7,09
10	7,06
15	7,04
20	7,02
25	7,00
30	6,99
35	6,98
40	6,97
45	6,96
50	6,96

ART. NO.	VOLUME	CONTAINER
SO10080250	250 ml	Ⓟ
SO10081000	1 l	Ⓟ
SO1008005P	5 l	Ⓟ

### SO1028 Buffer solution pH = 8,00 (20 °C) (Boric acid/Potassium chloride/Sodium hydroxide)

- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

pH at 20 °C ..... 8,00  
uncertainty ± 0,01  
Composition per litre is 3,095 g Boric acid, 3,728 g Potassium chloride and approx. 40 ml NaOH 0,1N  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	8,15
5	8,10
10	8,07
15	8,04
20	8,00
25	7,96
30	7,94
35	7,92
40	7,90
45	7,87
50	7,85

ART. NO.	VOLUME	CONTAINER
SO10280250	250 ml	Ⓟ
SO10281000	1 l	Ⓟ

**SO1009 Buffer solution pH = 9,00 (20 °C) (Boric acid/Potassium chloride/Sodium hydroxide)**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C . . . . . 9,00  
uncertainty ± 0,01  
Composition per litre is 3,1g Boric Acid, 3,8 g Potassium chloride and 0,8 g Sodium hydroxide  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	9,24
5	9,16
10	9,11
15	9,05
20	9,00
25	8,95
30	8,91
35	8,88
40	8,85
45	8,82
50	8,79

ART. NO.	VOLUME	CONTAINER
SO10090250	250 ml	Ⓟ
SO10091000	1 l	Ⓟ
SO1009025P	25 l	Ⓟ

**SO1092 Buffer solution pH = 9,26 (20 °C) (di-Sodium tetraborate decahydrate)**

- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 2660 mg/kg (pure substance)
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C . . . . . 9,26  
uncertainty ± 0,01  
Composition per litre is 3,7 g di-Sodium tetraborate decahydrate.  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	9,43
5	9,41
10	9,35
15	9,30
20	9,26
25	9,21
30	9,16
35	9,10
40	9,09
45	9,07
50	9,03

ART. NO.	VOLUME	CONTAINER
SO10920250	250 ml	Ⓟ
SO10921000	1 l	Ⓟ

**SO1010 Buffer solution pH = 10,00 (20 °C) (Sodium carbonate/Sodium hydrogen carbonate)**

- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -6 °C
- Boiling point: 110 °C
- Tariff number: 3822 00 00 00
- Applications: to fit pH of the reaction media.

pH at 20 °C . . . . . 10,00  
uncertainty ± 0,02  
Composition per litre is 2,64 g Sodium carbonate and 2,09 g Sodium hydrogen carbonate  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against two-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	10,25
5	10,18
10	10,12
15	10,06
20	10,00
25	9,97
30	9,93
35	9,91
40	9,89
45	9,83
50	9,78

ART. NO.	VOLUME	CONTAINER
SO10100250	250 ml	Ⓟ
SO10101000	1 l	Ⓟ
SO1010005P	5 l	Ⓟ
SO1010010C	10 l	Ⓟ
SO1010025P	25 l	Ⓟ

**SO1141 Buffer solution pH = 11,00 (20 °C) (Boric acid/Sodium hydroxide/Potassium chloride)**

- Density: 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: to fit pH of the reaction media.

pH at 20 °C . . . . . 11,00  
uncertainty ± 0,02  
Composition per litre is 3,1 g Boric Acid, 1,84g Sodium hydroxide and 3,4 g Potassium chloride.  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against two-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	11,45
5	11,32
10	11,20
15	11,10
20	11,00
25	10,90
30	10,81
35	10,72
40	10,64
45	10,56
50	10,48

ART. NO.	VOLUME	CONTAINER
SO11410250	250 ml	Ⓟ
SO11411000	1 l	Ⓟ

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**SO1142 Buffer solution pH = 12,00 (20°C) (di-Sodium hydrogen phosphate/Sodium hydroxide)**

- Density: ~ 1,01 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, to fit pH of the reaction media.

pH at 20 °C . . . . . 12,00  
uncertainty ± 0,02  
Composition per litre is 10,6g di-Sodium hydrogen phosphate and 3,10 g Sodium hydroxide.  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against two-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	12,58
5	12,41
10	12,26
15	12,10
20	12,00
25	11,88
30	11,72
35	11,67
40	11,54
45	11,41
50	11,33

ART. NO.	VOLUME	CONTAINER
SO11420250	250 ml	Ⓟ
SO11421000	1 l	Ⓟ

**SO1143 Buffer solution pH = 13,00 (20°C) (Potassium chloride/Sodium hydroxide)**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, to fit pH of the reaction media.

pH at 20 °C . . . . . 13,00  
uncertainty ± 0,02  
Composition per litre is 3,73g Potassium chloride and 1,92g Sodium hydroxide.  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against two-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	13,80
5	13,59
10	13,37
15	13,18
20	13,00
25	12,83
30	12,67
35	12,59
40	12,41
45	12,28
50	12,15

ART. NO.	VOLUME	CONTAINER
SO11430250	250 ml	Ⓟ
SO11431000	1 l	Ⓟ
SO1143005P	5 l	Ⓟ

**STANDARDS, COLOURED BUFFER SOLUTIONS FOR pH-METER CALIBRATION**

**SO2004 Buffer solution pH = 4,00 (20°C), red-coloured**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C . . . . . 4,00  
uncertainty ± 0,01  
Composition per litre is 10,21 g Potassium hydrogen phthalate.  
Contains preservative.  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	4,01
5	4,00
10	4,00
15	4,00
20	4,00
25	4,01
30	4,02
35	4,03
40	4,04
45	4,05
50	4,06

ART. NO.	VOLUME	CONTAINER
SO20040250	250 ml	Ⓟ
SO20040500	500 ml	Ⓟ
SO20041000	1 l	Ⓟ

**SO3004 Buffer solution pH = 4,00 (25 °C), red-coloured**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 25 °C . . . . . 4,00  
uncertainty ± 0,01  
Composition per litre is 10,3 g Potassium hydrogen phthalate.  
Contains preservative.  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	4,00
5	4,00
10	4,00
15	4,00
20	4,00
25	4,00
30	4,01
35	4,01
40	4,02
45	4,02
50	4,03

ART. NO.	VOLUME	CONTAINER
SO30040250	250 ml	Ⓟ
SO30041000	1 l	Ⓟ

**SO2007 Buffer solution pH = 7,00 (20 °C), yellow-coloured**

- Density: ~ 1,005 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C ..... 7,00  
 uncertainty ± 0,01  
 Composition per litre is 3,54g Potassium dihydrogen phosphate and 14,7 g di-Sodium hydrogen phosphate.  
 Contains preservative.  
 Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	7,13
5	7,07
10	7,05
15	7,02
20	7,00
25	6,98
30	6,98
35	6,96
40	6,95
45	6,95
50	6,95

ART. NO.	VOLUME	CONTAINER
SO20070250	250 ml	Ⓟ
SO20070500	500 ml	Ⓟ
SO20071000	1 l	Ⓟ

**SO3007 Buffer solution pH = 7,00 (25 °C), yellow-coloured**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 25 °C ..... 7,00  
 uncertainty ± 0,01  
 Composition per litre is 3,54 g Potassium dihydrogen phosphate and 14,7 g di-Sodium hydrogen phosphate.  
 Contains preservative.  
 Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	7,12
5	7,09
10	7,06
15	7,04
20	7,02
25	7,00
30	6,99
35	6,98
40	6,97
45	6,96
50	6,96

ART. NO.	VOLUME	CONTAINER
SO30070250	250 ml	Ⓟ
SO30071000	1 l	Ⓟ

**SO2010 Buffer solution pH = 10,00 (20 °C), blue-coloured**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 20 °C ..... 10,00  
 uncertainty ± 0,02  
 Composition per litre is 2,64 g Sodium carbonate and 2,09 g Sodium hydrogen carbonate.  
 Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against two-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	10,25
5	10,18
10	10,12
15	10,06
20	10,00
25	9,97
30	9,93
35	9,91
40	9,89
45	9,83
50	9,78

ART. NO.	VOLUME	CONTAINER
SO20100250	250 ml	Ⓟ
SO20100500	500 ml	Ⓟ
SO20101000	1 l	Ⓟ

**SO3010 Buffer solution pH = 10,00 (25 °C), blue-coloured**

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: in buffer solutions.

pH at 25 °C ..... 10,00  
 uncertainty ± 0,02  
 Composition per litre is 2,64 g Sodium carbonate and 2,09 g Sodium hydrogen carbonate.  
 Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against two-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	10,32
5	10,25
10	10,18
15	10,12
20	10,07
25	10,00
30	9,97
35	9,91
40	9,89
45	9,86
50	9,83

ART. NO.	VOLUME	CONTAINER
SO30100250	250 ml	Ⓟ
SO30101000	1 l	Ⓟ

## STANDARDS, BUFFER SOLUTIONS FOR pH-METER CALIBRATION, MONOBUF®

### SQ2040 Buffer solution pH = 4,00 (20 °C), red-coloured, Monobuf®

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

pH at 20°C. .... 4,00  
uncertainty ± 0,01  
Composition per litre is 10,21 g  
Potassium hydrogen phthalate.  
Contains preservative.  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	4,01
5	4,00
10	4,00
15	4,00
20	4,00
25	4,01
30	4,02
35	4,03
40	4,04
45	4,05
50	4,06

ART. NO.	VOLUME	CONTAINER
SO2040N360	12x30 ml	
SO20400360	12x30 ml	

### SQ2070 Buffer solution pH = 7,00 (20 °C), yellow-coloured, Monobuf®

- Density: ~ 1,005 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

pH at 20°C. .... 7,00  
uncertainty ± 0,01  
Composition per litre is 3,54 g  
Potassium dihydrogen phosphate and 14,7 g  
di-Sodium hydrogen phosphate.  
Contains preservative.  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against five-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	7,13
5	7,07
10	7,05
15	7,02
20	7,00
25	6,98
30	6,98
35	6,96
40	6,95
45	6,95
50	6,95

ART. NO.	VOLUME	CONTAINER
SO2070N360	12x30 ml	
SO20700360	12x30 ml	

### SQ2100 Buffer solution pH = 10,00 (20 °C), blue-coloured, Monobuf®

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

pH at 20°C. .... 10,00  
uncertainty ± 0,02  
Composition per litre is 2,64 g  
Sodium carbonate and 2,09 g  
Sodium hydrogen carbonate.  
Standard buffer solutions are prepared using gravimetric and volumetric procedures. The batch value is determined by measurement with a combination glass electrode against two-point calibration according to DIN 19268. This pH buffer solution is traceable to Standard Reference Material from NIST.

T (°C)	pH
0	10,25
5	10,18
10	10,12
15	10,06
20	10,00
25	9,97
30	9,93
35	9,91
40	9,89
45	9,83
50	9,78

ART. NO.	VOLUME	CONTAINER
SO2100N360	12x30 ml	
SO21000360	12x30 ml	

### SQ2200 Buffer solution pH = 4,00 (red), 7,00 (yellow), 10,00 (blue) (20 °C), Monobuf® Mix

- Tariff number: 3822 00 00 00

pH (red) at 20°C . .... 4,00  
pH (yellow) at 20°C . .... 7,00  
pH (blue) at 20°C . .... 10,00  
uncertainty ± 0,02

ART. NO.	VOLUME	CONTAINER
SO22000360	12x30 ml	
SO2200N360	12x40 ml	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**STANDARDS, CONDUCTIVITY**

**PA0099 Conductivity standard, 84 µS/cm (25 °C), KCl 0,0006 mol/L**

<ul style="list-style-type: none"> <li>CAS [7447-40-7]</li> <li>EINECS-No.: 231-211-8</li> <li>Density: 1,04 g/cm<sup>3</sup></li> <li>Solub. in water: (20 °C): miscible</li> <li>Tariff number: 3822 00 00</li> <li>Applications: analytical chemistry, laboratory reagent, for electroanalysis</li> <li>Appearance: Colourless</li> </ul>	conductivity (25 °C) . . . . . 83,0 - 85,0 µS/cm uncertainty < 1% The standard has been measured with an electrode, whose cell constant is approx. 0,7 cm <sup>-1</sup> , and a temperature sensor The cell constant is calibrated against SRM 999 from NIST (KCl). T (°C)k (µS/cm) 15 . . . . . 67,6 20 . . . . . 75,8 25 . . . . . 84,0	30 . . . . . 92,2 35 . . . . . 100,9 40 . . . . . 109,2
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ART. NO.	VOLUME	CONTAINER
PA00990250	250 ml	☒
PA00990500	500 ml	☒

**PA0100 Conductivity standard, 147 µS/cm (25 °C), KCl 0,001 mol/l**

<ul style="list-style-type: none"> <li>CAS [7447-40-7]</li> <li>EINECS-No.: 231-211-8</li> <li>Density: 1,00 g/cm<sup>3</sup></li> <li>Solub. in water: (20 °C): miscible</li> <li>Tariff number: 3822 00 00 00</li> <li>Applications: analytical chemistry, laboratory reagent, for electroanalysis.</li> </ul>	conductivity (25 °C) . . . . . 145 - 149 µS/cm uncertainty . . . . . < 1% The standard has been measured with an electrode, whose cell constant is approx. 0,7 cm <sup>-1</sup> , and a temperature sensor This conductivity standard is traceable to SRM 999 from NIST (KCl). T (°C)k (µS/cm) 15 . . . . . 118,5 20 . . . . . 132,8	25 . . . . . 147,0 30 . . . . . 161,2 35 . . . . . 177,5 40 . . . . . 191,5
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ART. NO.	VOLUME	CONTAINER
PA01000250	250 ml	☒
PA01000500	500 ml	☒

**PA0101 Conductivity standard, 1413 µS/cm (25 °C), KCl 0,01 mol/l**

<ul style="list-style-type: none"> <li>CAS [7447-40-7]</li> <li>EINECS-No.: 231-211-8</li> <li>Density: 1,00 g/cm<sup>3</sup></li> <li>Solub. in water: (20 °C): miscible</li> <li>Tariff number: 3822 00 00 00</li> <li>Applications: analytical chemistry, laboratory reagent, for electroanalysis.</li> </ul>	conductivity (25 °C) . . . . . 1399 - 1427 µS/cm uncertainty . . . . . < 1% The standard has been measured with an electrode, whose cell constant is approx. 0,7 cm <sup>-1</sup> , and a temperature sensor This conductivity standard is traceable to SRM 999 from NIST (KCl). T (°C) . . . . . k (µS/cm) 15 . . . . . 1139 20 . . . . . 1276	25 . . . . . 1413 30 . . . . . 1550 35 . . . . . 1694 40 . . . . . 1833
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ART. NO.	VOLUME	CONTAINER
PA01010250	250 ml	☒
PA01010500	500 ml	☒

**PA0102 Conductivity standard, 12880 µS/cm (25 °C), KCl 0,1 mol/l**

<ul style="list-style-type: none"> <li>CAS [7447-40-7]</li> <li>EINECS-No.: 231-211-8</li> <li>Density: 1,00 g/cm<sup>3</sup></li> <li>Solub. in water: (20 °C): miscible</li> <li>Tariff number: 3822 00 00 00</li> <li>Applications: analytical chemistry, laboratory reagent, for electroanalysis.</li> </ul>	conductivity (25 °C) . . . . . 12820 - 12940 µS/cm uncertainty . . . . . < 1% The standard has been measured with an electrode, whose cell constant is approx. 10,0 cm <sup>-1</sup> , and a temperature sensor This conductivity standard is traceable to SRM 999 from NIST (KCl). T (°C) . . . . . k (µS/cm) 15 . . . . . 10439 20 . . . . . 11664	25 . . . . . 12880 30 . . . . . 14112 35 . . . . . 15392 40 . . . . . 16678
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ART. NO.	VOLUME	CONTAINER
PA01020250	250 ml	☒
PA01020500	500 ml	☒

**PA0103 Conductivity standard, 50000 µS/cm (25 °C), KCl aqueous solution**

<ul style="list-style-type: none"> <li>CAS [7447-40-7]</li> <li>EINECS-No.: 231-211-8</li> <li>Density: 1,02 g/cm<sup>3</sup></li> <li>Solub. in water: (20 °C): miscible</li> <li>Tariff number: 3822 00 00 00</li> <li>Applications: analytical chemistry, laboratory reagent, for electroanalysis.</li> </ul>	conductivity (25 °C) . . . . . 49900 - 50100 µS/cm uncertainty < 1% The standard has been measured with an electrode, whose cell constant is approx. 10,0 cm <sup>-1</sup> , and a temperature sensor This conductivity standard is traceable to SRM 999 from NIST (KCl). T (°C) . . . . . k (µS/cm) 15 . . . . . 40798 20 . . . . . 44479	25 . . . . . 50000 30 . . . . . 54601 35 . . . . . 59334 40 . . . . . 64070
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ART. NO.	VOLUME	CONTAINER
PA01030250	250 ml	☒

**STANDARDS, IC ACCORDING TO ISO 17025**

**AM0236 Ammonium, standard solution 1000 mg/l NH<sub>4</sub><sup>+</sup> for IC (NH<sub>4</sub>Cl in H<sub>2</sub>O)**

<ul style="list-style-type: none"> <li>Density: 1,00 g/cm<sup>3</sup></li> <li>Solub. in water: (20 °C): miscible</li> <li>Tariff number: 3822 00 00 00</li> </ul>	concentration . . . . . 990 - 1010 mg/l This standard solution is traceable to Standard Reference Material from NIST.	ART. NO. . . . . VOLUME . . . . . CONTAINER AM02360100 . . . . . 100 ml . . . . . ☒
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A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

### BR0131 Bromide, standard solution 1000 mg/l Br<sup>-</sup> for IC (KBr in H<sub>2</sub>O)

- Density: 1,00 g/cm<sup>3</sup> concentration: . . . . . 990 - 1010 mg/l
- Solub. in water: (20 °C): miscible This standard solution is traceable to Standard Reference Material from NIST.
- Tariff number: 3822 00 00 00

ART. NO.	VOLUME	CONTAINER
BR01310100	100 ml	

### CA0178 Calcium, standard solution 1000 mg/l Ca<sup>2+</sup> for IC (CaCl<sub>2</sub> in H<sub>2</sub>O)

- Density: 1,00 g/cm<sup>3</sup> concentration: . . . . . 990 - 1010 mg/l
- Solub. in water: (20 °C): miscible This standard solution is traceable to Standard Reference Material from NIST.
- Tariff number: 3822 00 00 00

ART. NO.	VOLUME	CONTAINER
CA01780100	100 ml	

### CL0229 Chloride, standard solution 1000 mg/l Cl<sup>-</sup> for IC (NaCl in H<sub>2</sub>O)

- Density: 1,00 g/cm<sup>3</sup> concentration: . . . . . 990 - 1010 mg/l
- Solub. in water: (20 °C): miscible This standard solution is traceable to Standard Reference Material from NIST.
- Tariff number: 3822 00 00 00

ART. NO.	VOLUME	CONTAINER
CL02290100	100 ml	

### CRO186 Chromium, standard solution 1000 mg/l Cr<sup>6+</sup> for IC ((NH<sub>4</sub>)<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> in H<sub>2</sub>O)



- Density: 1,00 g/cm<sup>3</sup> concentration: . . . . . 990 - 1010 mg/l
- Solub. in water: (20 °C): miscible This standard solution is traceable to Standard Reference Material from NIST.
- GHS-signal word: Danger
- GHS-H sentences: H334 - H340 - H350 - H317
- GHS-P sentences: P285 - P261 - P280 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00

ART. NO.	VOLUME	CONTAINER
CRO1860100	100 ml	

### CI0021 Cyanide, standard solution 1000 mg/l CN<sup>-</sup> for IC (KCN in 0,1% KOH)

- Density: 1,00 g/cm<sup>3</sup> concentration: . . . . . 990 - 1010 mg/l
- Solub. in water: (20 °C): miscible This standard solution is traceable to Standard Reference Material from NIST.
- Tariff number: 3822 00 00 00

ART. NO.	VOLUME	CONTAINER
CI00210100	100 ml	

### FL0141 Fluoride, standard solution 1000 mg/l F<sup>-</sup> for IC (NaF in H<sub>2</sub>O)

- Density: 1,00 g/cm<sup>3</sup> concentration: . . . . . 990 - 1010 mg/l
- Solub. in water: (20 °C): miscible This standard solution is traceable to Standard Reference Material from NIST.
- Tariff number: 3822 00 00 00

ART. NO.	VOLUME	CONTAINER
FL01410100	100 ml	

### GL0131 Glycolate, standard solution 1000 mg/l C<sub>2</sub>H<sub>3</sub>O<sub>3</sub><sup>-</sup> for IC (C<sub>2</sub>H<sub>4</sub>O<sub>3</sub> in H<sub>2</sub>O)

- Density: 1,00 g/cm<sup>3</sup> concentration: . . . . . 990 - 1010 mg/l
- Solub. in water: (20 °C): miscible This standard solution is traceable to Standard Reference Material from NIST.
- Tariff number: 3822 00 00 00

ART. NO.	VOLUME	CONTAINER
GL01310100	100 ml	

### YO0077 Iodide, standard solution 1000 mg/l I<sup>-</sup> for IC (KI in H<sub>2</sub>O)

- Density: 1,00 g/cm<sup>3</sup> concentration: . . . . . 990 - 1010 mg/l
- Solub. in water: (20 °C): miscible This standard solution is traceable to Standard Reference Material from NIST.
- Tariff number: 3822 00 00 00

ART. NO.	VOLUME	CONTAINER
YO00770100	100 ml	

### LI0062 Lithium, standard solution 1000 mg/l Li<sup>+</sup> for IC (Li<sub>2</sub>CO<sub>3</sub> in H<sub>2</sub>O)

- Density: 1,00 g/cm<sup>3</sup> concentration: . . . . . 990 - 1010 mg/l
- Solub. in water: (20 °C): miscible This standard solution is traceable to Standard Reference Material from NIST.
- Tariff number: 3822 00 00 00

ART. NO.	VOLUME	CONTAINER
LI00620100	100 ml	

### MA0013 Magnesium, standard solution 1000 mg/l Mg<sup>2+</sup> for IC (MgCl<sub>2</sub> in H<sub>2</sub>O)

- Density: 1,00 g/cm<sup>3</sup> concentration: . . . . . 990 - 1010 mg/l
- Solub. in water: (20 °C): miscible This standard solution is traceable to Standard Reference Material from NIST.
- Tariff number: 3822 00 00 00

ART. NO.	VOLUME	CONTAINER
MA00130100	100 ml	

### NI0192 Nitrate, standard solution 1000 mg/l NO<sub>3</sub><sup>-</sup> for IC (NH<sub>4</sub>NO<sub>3</sub> in H<sub>2</sub>O)

- Density: 1,00 g/cm<sup>3</sup> concentration: . . . . . 990 - 1010 mg/l
- Solub. in water: (20 °C): miscible This standard solution is traceable to Standard Reference Material from NIST.
- Tariff number: 3822 00 00 00

ART. NO.	VOLUME	CONTAINER
NI01920100	100 ml	

**NI0123 Nitrite, standard solution 1000 mg/l NO<sub>2</sub><sup>-</sup> for IC (NaNO<sub>2</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

concentration. . . . . 990 - 1010 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
NI01230100	100 ml	

**PO0321 Perchlorate, standard solution 1000 mg/l ClO<sub>4</sub><sup>-</sup> for IC (KClO<sub>4</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

concentration. . . . . 990 - 1010 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
PO03210100	100 ml	

**FO0112 Phosphate, standard solution 1000 mg/l PO<sub>4</sub><sup>3-</sup> for IC (NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

concentration. . . . . 990 - 1010 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
FO01120100	100 ml	

**PO0107 Potassium, standard solution 1000 mg/l K<sup>+</sup> for IC (KCl in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

concentration. . . . . 990 - 1010 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
PO01070100	100 ml	

**SO0007 Sodium, standard solution 1000 mg/l Na<sup>+</sup> for IC (NaCl in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

concentration. . . . . 990 - 1010 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SO00070100	100 ml	

**SU0103 Sulfate, standard solution 1000 mg/l SO<sub>4</sub><sup>2-</sup> for IC (Na<sub>2</sub>SO<sub>4</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

concentration. . . . . 990 - 1010 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SU01030100	100 ml	

**STANDARDS, ICP SINGLE ELEMENT, ACCORDING TO ISO 17025**

**AL0754 Aluminium, standard solution 1000 mg/l for ICP (Al in HNO<sub>3</sub> 2%)** 

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
AL07540100	100 ml	

**AN0445 Antimony, standard solution 1000 mg/l for ICP (Sb in HCl 20%)** 

- Density: 1,05 g/cm<sup>3</sup>
- ADR: 8 C1 II UN 1789
- IMDG: 8 II UN 1789
- IATA/ICAO: 8 II UN 1789
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335

- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
AN04450100	100 ml	

**AR0156 Arsenic, standard solution 1000 mg/l for ICP (As<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)**  

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H350 - H315 - H319

- GHS-P sentences: P280 - P281 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
AR01560100	100 ml	

**AR0153 Arsenic, standard solution 1000 mg/l in Water**

- Density: 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00

concentration . . . . . 995 - 1005 mg/l  
uncertainty ± 5 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
AR01530100	100 ml	

**BA0016 Barium, standard solution 1000 mg/l for ICP (Ba(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2%)**



- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
BA00160100	100 ml	

**BE0346 Beryllium, standard solution 1000 mg/l for ICP (Be<sub>4</sub>O(C<sub>2</sub>H<sub>3</sub>O<sub>2</sub>)<sub>6</sub> in HCl 2%)**



- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H331 - H350i - H317

- GHS-P sentences: P261 - P280 - P281 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
BE03460100	100 ml	

**BI0136 Bismuth, standard solution 1000 mg/l for ICP (Bi in HNO<sub>3</sub> 5%)**



- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
BI01360100	100 ml	

**BO0018 Boron, standard solution 1000 mg/l for ICP (H<sub>3</sub>BO<sub>3</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
BO00180100	100 ml	

**CA0045 Cadmium, standard solution 1000 mg/l for ICP (Cd in HNO<sub>3</sub> 2%)**



- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CA00450100	100 ml	

**CA0181 Calcium, standard solution 1000 mg/l for ICP (CaCO<sub>3</sub> in HNO<sub>3</sub> 2%)**



- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CA01810100	100 ml	

**CE0038 Cerium, standard solution 1000 mg/l for ICP (Ce(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2%)**



- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CE00380100	100 ml	

**CE0108 Cesium, standard solution 1000 mg/l for ICP (CsNO<sub>3</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . .1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CE01080100	100 ml	

**CR0227 Chromium, standard solution 1000 mg/l for ICP (Cr(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2%)**

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . .1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CR02270100	100 ml	

**CO0014 Cobalt, standard solution 1000 mg/l for ICP (Co in HNO<sub>3</sub> 2%)**

- Density: 1,02 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H350i - H360F - H315 - H319 - H411 - EUH208

- GHS-P sentences: P280 - P281 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . .1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CO00140100	100 ml	

**CO0081 Copper, standard solution 1000 mg/l for ICP (Cu in HNO<sub>3</sub> 2%)**

- Density: 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . .1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CO00810100	100 ml	

**ER0031 Erbium, standard solution 1000 mg/l for ICP (Er<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)**

- Density: 1,02 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . .1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
ER00310100	100 ml	

**EU0052 Europium, standard solution 1000 mg/l for ICP (Eu<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)**

- Density: 1,03 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . .1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
EU00520100	100 ml	

**GA0011 Gadolinium, standard solution 1000 mg/l for ICP (Gd<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)**

- Density: 1,02 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . .1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
GA00110100	100 ml	


A  
B  
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U  
V  
W  
X  
Y  
Z

**GA0036 Gallium, standard solution 1000 mg/l for ICP (Ga in HNO<sub>3</sub> 2%)** 

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
GA00360100	100 ml	

**GE0072 Germanium, standard solution 1000 mg/l for ICP (Ge in HNO<sub>3</sub> 5% + HF 1%)** 

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 CT1 II UN 2922
- IMDG: 8 II UN 2922
- IATA/ICAO: 8 II UN 2922
- GHS-signal word: Danger
- GHS-H sentences: H311 - H315 - H319 -
- GHS-P sentences: P280 - P305 + P351 + P338 - P361 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.
- Appearance: Colourless liquid

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
GE00720100	100 ml	

**OR0063 Gold, standard solution 1000 mg/l for ICP (Au in HCl 2%)** 

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H290
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
OR00630100	100 ml	

**HA0011 Hafnium, standard solution 1000 mg/l for ICP (HfO<sub>2</sub> in HNO<sub>3</sub> 2% + HF 1%)** 

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
HA00110100	100 ml	

**HO0011 Holmium, standard solution 1000 mg/l for ICP (Ho<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)** 

- Density: 1,02 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
HO00110100	100 ml	

**IN0088 Indium, standard solution 1000 mg/l for ICP (In in HNO<sub>3</sub> 2%)** 

- Density: 1,00 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
IN00880100	100 ml	

**IR0011 Iridium, standard solution 1000 mg/l for ICP (IrCl<sub>3</sub> in HCl 10%)** 

- Density: 1,05 g/cm<sup>3</sup>
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
IR00110100	100 ml	

**HI0291 Iron, standard solution 1000 mg/l for ICP (Fe in HNO<sub>3</sub> 2%)**



- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
HI02910100	100 ml	

**LA0081 Lanthanum, standard solution 1000 mg/l for ICP (La<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)**



- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
LA00810100	100 ml	

**PL0108 Lead, standard solution 1000 mg/l for ICP (Pb(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2%)**



- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
PL01080100	100 ml	

**LI0064 Lithium, standard solution 1000 mg/l for ICP (Li<sub>2</sub>CO<sub>3</sub> in HNO<sub>3</sub> 2%)**



- Density: 1,02 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
LI00640100	100 ml	

**LU0016 Lutetium, standard solution 1000 mg/l for ICP (Lu<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)**



- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
LU00160100	100 ml	

**MA0016 Magnesium, standard solution 1000 mg/l for ICP (Mg(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2%)**



- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 -

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MA00160100	100 ml	

**MA0116 Manganese, standard solution 1000 mg/l for ICP (Mn in HNO<sub>3</sub> 2%)**



- Density: 1,02 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MA01160100	100 ml	



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U  
V  
W  
X  
Y  
Z

**ME0116 Mercury, standard solution 1000 mg/l for ICP (HgO in HNO<sub>3</sub> 10%)** 

- Density: 1,08 g/cm<sup>3</sup>
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H314 - H373
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
ME01160100	100 ml	

**MO0024 Molybdenum, standard solution 1000 mg/l for ICP (MoO<sub>3</sub> in NH<sub>3</sub> 4%)** 

- Density: 0,98 g/cm<sup>3</sup>
- GHS-signal word: Danger
- GHS-H sentences: H318 - H315
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P321 - P362 - P332 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MO00240100	100 ml	

**NE0064 Neodymium, standard solution 1000 mg/l for ICP (Nd<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)** 

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
NE00640100	100 ml	

**NI0126 Nickel, standard solution 1000 mg/l for ICP (Ni in HNO<sub>3</sub> 2%)** 

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - EUH208
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
NI01260100	100 ml	

**NI0071 Niobium, standard solution 1000 mg/l for ICP (Nb in HNO<sub>3</sub> 5% + HF 1%)** 

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 CT1 II UN 2922
- IMDG: 8 II UN 2922
- IATA/ICAO: 8 II UN 2922
- GHS-signal word: Danger
- GHS-H sentences: H311 - H315 - H319 -
- GHS-P sentences: P280 - P305 + P351 + P338 - P361 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
NI00710100	100 ml	

**OS0056 Osmium, standard solution 1000 mg/l for ICP (OsCl<sub>3</sub> in HCl 2%)** 

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P310 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
OS00560100	100 ml	

**PA0066 Palladium, standard solution 1000 mg/l for ICP (Pd in HCl 5%)** 

- Density: 1,10 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H290 - H315 - H319 - H335
- GHS-P sentences: P302 + P352 - P305 + P351 + P338
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.


ART. NO.	VOLUME	CONTAINER
PA00660100	100 ml	

**FO0036 Phosphorus, standard solution 1000 mg/l for ICP (NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub> in H<sub>2</sub>SO<sub>4</sub> 0,05%)**

- Density: 1,00 g/cm<sup>3</sup>
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
FO00360100	100 ml	

**PT0006 Platinum, standard solution 1000 mg/l for ICP (Pt in HCl 10%)** 

- Density: 1,05 g/cm<sup>3</sup>
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335

- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
PT00060100	100 ml	

**PO0111 Potassium, standard solution 1000 mg/l for ICP (KNO<sub>3</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
PO01110100	100 ml	

**PR0011 Praseodymium, standard solution 1000 mg/l Pr for ICP (Pr in HNO<sub>3</sub> 2%)** 

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.



ART. NO.	VOLUME	CONTAINER
PR00110100	100 ml	

**RE0078 Rhenium, standard solution 1000 mg/l for ICP (Re in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
RE00780100	100 ml	

**RO0023 Rhodium, standard solution 1000 mg/l for ICP (RhCl<sub>3</sub> in HCl 5%)**  

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H290 - H315 - H319 - H335 -

- GHS-P sentences: P302 + P352 - P305 + P351 + P338
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
RO00230100	100 ml	

**RU0021 Rubidium, standard solution 1000 mg/l for ICP (RbNO<sub>3</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
RU00210100	100 ml	

**RU0063 Ruthenium, standard solution 1000 mg/l for ICP (RuCl<sub>3</sub> in HCl 5%)**  

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H290 - H315 - H319 - H335

- GHS-P sentences: P302 + P352 - P305 + P351 + P338
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
RU00630100	100 ml	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

**SA0211 Samarium, standard solution 1000 mg/l for ICP (Sm<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)** 

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SA02110100	100 ml	

**ES0021 Scandium, standard solution 1000 mg/l for ICP (Sc<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)** 

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
ES00210100	100 ml	

**SE0016 Selenium, standard solution 1000 mg/l for ICP (Se in HNO<sub>3</sub> 2%)** 

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SE00160100	100 ml	

**SI0016 Silicon, standard solution 1000 mg/l for ICP ((NH<sub>4</sub>)<sub>2</sub>SiF<sub>6</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
  - Tariff number: 3822 00 00 00
  - Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.
- concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SI00160100	100 ml	

**PL0008 Silver, standard solution 1000 mg/l for ICP (AgNO<sub>3</sub> in HNO<sub>3</sub> 2%)** 

- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.


concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
PL00080100	100 ml	

**SO0009 Sodium, standard solution 1000 mg/l for ICP (NaNO<sub>3</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
  - Tariff number: 3822 00 00 00
  - Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.
- concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SO00090100	100 ml	

**ES0181 Strontium, standard solution 1000 mg/l for ICP (Sr(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2%)** 


- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
ES01810100	100 ml	

**SU0102 Sulfur, standard solution 1000 mg/l for ICP ((NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> in H<sub>2</sub>O)**

- Density: 1,00 g/cm<sup>3</sup>
  - LD 50 (oral, rat): 4250 mg/kg (pure substance)
  - Tariff number: 3822 00 00 00
  - Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.
- concentration. . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
SU01020100	100 ml	

**TA0201 Tantalum, standard solution 1000 mg/l for ICP (Ta in HNO<sub>3</sub> 5% + HF 1%)**



- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 CT1 II UN 2922
- IMDG: 8 II UN 2922
- IATA/ICAO: 8 II UN 2922
- GHS-signal word: Danger
- GHS-H sentences: H311 - H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P361 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
TA02010100	100 ml	

**TE0023 Tellurium, standard solution 1000 mg/l for ICP (Te in HCl 20%)**



- Density: 1,09 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335 - H336

- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
TE00230100	100 ml	

**TA0031 Thallium, standard solution 1000 mg/l for ICP (Tl in HNO<sub>3</sub> 2%)**



- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
TA00310100	100 ml	

**ES0066 Tin, standard solution 1000 mg/l for ICP (Sn in HCl 20%)**



- Density: 1,08 g/cm<sup>3</sup>
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335

- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
ES00660100	100 ml	

**TI0366 Titanium, standard solution 1000 mg/l for ICP ((NH<sub>4</sub>)<sub>2</sub>TiF<sub>6</sub> in HNO<sub>3</sub> 5% + HF 0,5%)**



- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H314

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
TI03660100	100 ml	

**TU0016 Tungsten, standard solution 1000 mg/l for ICP (WO<sub>3</sub> in NH<sub>3</sub> 4%)**



- Density: 0,98 g/cm<sup>3</sup>
- GHS-signal word: Danger
- GHS-H sentences: H318 - H315
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P321 - P362 - P332 + P313
- Tariff number: 3822 00 00 00

- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
TU00160100	100 ml	

**VA0076 Vanadium, standard solution 1000 mg/l for ICP (V<sub>2</sub>O<sub>5</sub> in HNO<sub>3</sub> 2%)**



- Density: 1,01 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
VA00760100	100 ml	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

IT0004 Ytterbium, standard solution 1000 mg/l for ICP (Yb<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
IT00040100	100 ml	

IT0011 Yttrium, standard solution 1000 mg/l for ICP (Y<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2%)

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
IT00110100	100 ml	

CI0129 Zinc, standard solution 1000 mg/l for ICP (Zn in HNO<sub>3</sub> 2%)

- Density: 1,02 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319

- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CI01290100	100 ml	

CI0256 Zirconium, standard solution 1000 mg/l for ICP (ZrO(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 5% + HF 0,5%)

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H314

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

concentration: . . . . . 1000 mg/l  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
CI02560100	100 ml	

## STANDARDS, ICP MULTIELEMENT, ACCORDING TO ISO 17025

MU0114 ICP multielement calibration standard solution, 4 elements in HCl 1%

- Density: 1,02 g/cm<sup>3</sup>
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

calcium (Ca) . . . . . 100 ppm  
magnesium (Mg) . . . . . 20 ppm  
potassium (K) . . . . . 150 ppm  
sodium (Na) . . . . . 3300 ppm  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MU01140100	100 ml	

MU0112 ICP multielement calibration standard solution, 9 elements in HNO<sub>3</sub> 5%

- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H314 - H317 - H350 - H412
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P310 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

cadmium (Cd) . . . . . 100 ppm  
chromium (Cr) . . . . . 100 ppm  
cobalt (Co) . . . . . 100 ppm  
copper (Cu) . . . . . 100 ppm  
lead (Pb) . . . . . 100 ppm  
manganese (Mn) . . . . . 100 ppm  
nickel (Ni) . . . . . 100 ppm  
vanadium (V) . . . . . 100 ppm  
zinc (Zn) . . . . . 100 ppm  
This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MU01120100	100 ml	

MU0113 ICP multielement calibration standard solution, 16 elements in HNO<sub>3</sub> 10%



- ADR: 8 C1 II UN 3264
- IMDG: 8 II UN 3264
- IATA/ICAO: 8 II UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H350 - H314 - H317
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

aluminium (Al) . . . . .	100 ppm
barium (Ba) . . . . .	5 ppm
beryllium (Be) . . . . .	2 ppm
boron (B) . . . . .	20 ppm
cadmium (Cd) . . . . .	20 ppm
chromium (Cr) . . . . .	20 ppm
cobalt (Co) . . . . .	50 ppm
copper (Cu) . . . . .	20 ppm
iron (Fe) . . . . .	20 ppm
lead (Pb) . . . . .	200 ppm
manganese (Mn) . . . . .	10 ppm
nickel (Ni) . . . . .	50 ppm

selenium (Se) . . . . .	5 ppm
thallium (Tl) . . . . .	100 ppm
vanadium (V) . . . . .	50 ppm
zinc (Zn) . . . . .	50 ppm

This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MU01130100	100 ml	

MU0111 ICP multielement calibration standard solution, 26 elements in HNO<sub>3</sub> 5%



- Density: 1,03 g/cm<sup>3</sup>
- ADR: 8 C1 III UN 3264
- IMDG: 8 III UN 3264
- IATA/ICAO: 8 III UN 3264
- GHS-signal word: Danger
- GHS-H sentences: H350 - H315 - H319 - H317 - H412
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for inducted coupled plasma (ICP) analysis.

aluminium (Al) . . . . .	100 ppm
arsenic (As) . . . . .	100 ppm
barium (Ba) . . . . .	100 ppm
beryllium (Be) . . . . .	100 ppm
bismuth (Bi) . . . . .	100 ppm
boron (B) . . . . .	100 ppm
cadmium (Cd) . . . . .	100 ppm
calcium (Ca) . . . . .	100 ppm
chromium (Cr) . . . . .	100 ppm
cobalt (Co) . . . . .	100 ppm
copper (Cu) . . . . .	100 ppm
iron (Fe) . . . . .	100 ppm
lead (Pb) . . . . .	100 ppm
lithium (Li) . . . . .	100 ppm
magnesium (Mg) . . . . .	100 ppm
manganese (Mn) . . . . .	100 ppm

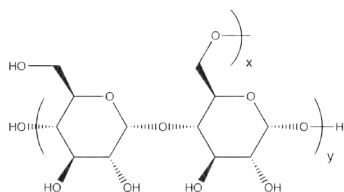
molybdenum (Mo) . . . . .	100 ppm
nickel (Ni) . . . . .	100 ppm
potassium (K) . . . . .	100 ppm
selenium (Se) . . . . .	100 ppm
sodium (Na) . . . . .	100 ppm
strontium (Sr) . . . . .	100 ppm
thallium (Tl) . . . . .	100 ppm
titanium (Ti) . . . . .	100 ppm
vanadium (V) . . . . .	100 ppm
zinc (Zn) . . . . .	100 ppm

This standard solution is traceable to Standard Reference Material from NIST.

ART. NO.	VOLUME	CONTAINER
MU01110100	100 ml	

**STARCH**

AL0715 Starch, soluble, EssentQ®



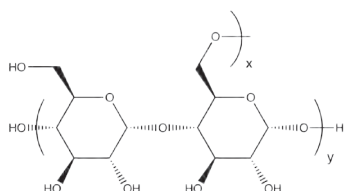
- Synonyms: Amylum, Potato starch
- (C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>)<sub>n</sub>
- CAS [9005-84-9]
- EINECS-No.: 232-686-4
- Solub. in water: (90 °C): 50 g/l
- Tariff number: 3505 10 90 00
- Applications: analytical chemistry, indicator (iodometric analyses), laboratory reagent, synthesis of organic products.

pH (2 %, H<sub>2</sub>O) . . . . . 5,0 - 7,0  
 solubility . . . . . passes test  
 sensitivity to iodine . . . . . passes test  
 residue on ignition . . . . . max. 1,5 %  
 loss on drying (105 °C) . . . . . 10 - 20 %

ART. NO.	VOLUME	CONTAINER
AL07150100	100 g	
AL07150250	250 g	
AL07150500	500 g	
AL07151000	1 kg	
AL0715025P	25 kg	

**STARCH, SOLUTION 1%**

AL0718 Starch, solution 1% w/v



- Synonyms: Amylum solution, Potato starch solution
- (C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>)<sub>n</sub>
- CAS [9005-84-9]
- EINECS-No.: 232-686-4
- Tariff number: 3505 10 90 00
- Applications: analytical chemistry, indicator (iodometric analyses).

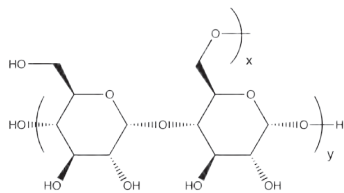
sensitivity as indicator in iodometry . . . . . passes test  
 store below room temperature.  
 Avoid exposure to light

ART. NO.	VOLUME	CONTAINER
AL0718G100	100 ml	
AL07180250	250 ml	
AL07180500	500 ml	



## STARCH, SOLUTION 2 %

AL0719 Starch, solution 2%



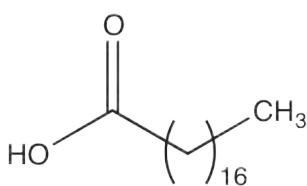
- $(C_6H_{10}O_5)_n$
- CAS [9005-84-9]
- EINECS-No.: 232-686-4
- Density: 1,01 g/cm<sup>3</sup>
- Tariff number: 3505 10 90 00

sensitivity as indicator in iodometry. . . . . passes test  
Store below room temperature  
Avoid exposure to light

ART. NO.	VOLUME	CONTAINER
AL07190500	500 ml	Ⓟ

## STEARIC ACID

AC0926 Stearic acid 70, EssentQ®



- Synonyms: Octadecanoic acid
- $C_{18}H_{36}O_2$
- M = 284,47 g/mol
- CAS [57-11-4]
- EINECS-No.: 200-313-4
- Solub. in water: (20 °C): insoluble
- Melting point: 67 °C
- Boiling point: (19,95 hPa) 232 °C
- Flash pt. 196 °C
- Ignition temp.: 395 °C
- Vapour pressure: (148 °C) 0,13 hPa
- Tariff number: 2915 70 50 00
- Applications: laboratory reagent, synthesis of organic products, in the pharmaceuticals industry, cosmetics.

total content (palmitic + stearic acid, G.C., as methyl ester) . . . . . min. 90 %  
identity (IR-spectrum) . . . . . passes test  
appearance . . . . . passes test  
freezing point . . . . . 57 - 64 °C  
acidity . . . . . passes test  
palmitic acid (G.C.) . . . . . max. 30 %  
stearic acid (G.C.) . . . . . min. 70 %  
acidity index . . . . . 194 - 212  
iodine index . . . . . max. 4  
heavy metals (as Pb) . . . . . max. 0,001 %  
nickel (Ni) . . . . . max. 0,0001 %  
mineral acid . . . . . passes test  
neutral fat or paraffin . . . . . passes test  
residue on ignition . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC09260500	500 g	Ⓟ
AC09261000	1 kg	Ⓟ
AC0926025P	25 kg	Ⓟ

## STEARYL ALCOHOL

AL0235 Stearyl alcohol, EssentQ®

assay (G.C.) . . . . . min. 95 %  
identity (IR-spectrum) . . . . . passes test

AL0236 Stearyl alcohol, EssentQ®

assay (G.C.) . . . . . min. 95 %  
identification . . . . . passes test  
appearance of solution . . . . . passes test  
melting point . . . . . 57 - 60 °C

- Synonyms: 1-Octadecanol, Octadecyl alcohol
- $C_{18}H_{38}O$
- M = 270,50 g/mol
- CAS [112-92-5]
- EINECS-No.: 204-017-6
- Solub. in water: (20 °C): insoluble
- Melting point: 55 - 57,5 °C
- Boiling point: (20 hPa) 210 °C

- Flash pt. 195 °C
- Ignition temp.: 230 °C
- LD 50 (oral, rat): 20000 mg/kg
- Tariff number: 2905 17 00 00
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products, for pharmaceutical use, cosmetics, emulsifier, antifoaming agent, in lubricant compositions.

ART. NO.	VOLUME	CONTAINER
AL02351000	1 kg	Ⓟ

ART. NO.	VOLUME	CONTAINER
AL02361000	1 kg	Ⓟ

acid value . . . . . max 1,0  
hydroxyl value . . . . . 197 - 217  
iodine value . . . . . max. 2,0  
saponification index . . . . . max. 2,0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## STRONTIUM NITRATE ANHYDROUS

ES0180 Strontium nitrate anhydrous, EssentQ®



- Synonyms: Nitric acid strontium salt
- $\text{Sr}(\text{NO}_3)_2$
- M = 211,63 g/mol
- CAS [10042-76-9]
- EINECS-No.: 233-131-9
- Solub. in water: (20 °C): 660 g/l
- Melting point: 570 °C
- LD 50 (oral, rat): 2750 mg/kg
- ADR: 5.1 O2 III UN 1507
- IMDG: 5.1 III UN 1507
- IATA/ICAO: 5.1 III UN 1507
- GHS-signal word: Danger
- GHS-H sentences: H272
- GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a

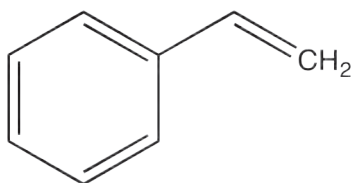
- Tariff number: 2834 29 80 00
- Applications: analytical chemistry, laboratory reagent, for the analysis of: metal ions traces.
- Appearance: White crystals

assay (complexometric) . . . . . min. 98 %  
 acidity (as  $\text{HNO}_3$ ) . . . . . max. 0,01 %  
 insoluble in water . . . . . max. 0,025 %  
 pH (5 %,  $\text{H}_2\text{O}$ ) . . . . . 5 - 7  
 chlorides (Cl) . . . . . max. 0,005 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,02 %  
 copper (Cu) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,005 %  
 lead (Pb) . . . . . max. 0,002 %  
 nickel (Ni) . . . . . max. 0,002 %

ART. NO.	VOLUME	CONTAINER
ES01800500	500 g	
ES01801000	1 kg	

## STYRENE

ES0140 Styrene, stabilized, EssentQ®

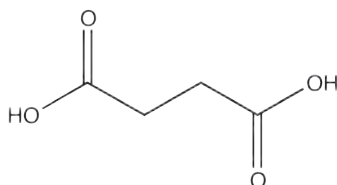


- Synonyms: Phenylethylene, Vinylbenzene
- $\text{C}_8\text{H}_8$
- M = 104,15 g/mol
- CAS [100-42-5]
- EINECS-No.: 202-851-5
- Density: 0,906 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 0,24 g/l
- Melting point: -31 °C
- Boiling point: 145 °C
- Flash pt. 31 °C
- Ignition temp.: 480 °C
- Vapour pressure: (20 °C) 6 hPa
- Refraction index: (n 20 °C/D) 1,5458
- LD 50 (oral, rat): 2650 mg/kg
- EC-Index-No.: 601-026-00-0
- ADR: 3 F1 III UN 2055
- IMDG: 3 III UN 2055
- IATA/ICAO: 3 III UN 2055
- GHS-signal word: Warning
- GHS-H sentences: H226 - H332 - H315 - H319
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P501a
- Tariff number: 2902 50 00 00
- Applications: synthesis of organic products, laboratory reagent, manufacturing of synthetic resins, for the synthesis of: rubber, various plastics.

assay (G.C.) . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,904 - 0,908  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ES01400100	100 ml	
ES01401000	1 l	
ES01402500	2,5 l	

## SUCCINIC ACID



- Synonyms: Butanedioic acid
- $\text{C}_4\text{H}_6\text{O}_4$
- M = 118,09 g/mol
- CAS [110-15-6]
- EINECS-No.: 203-740-4
- Solub. in water: (20°C): soluble
- Melting point: 183 - 187 °C
- Boiling point: ~ 235 °C
- Flash pt. 206 °C
- Ignition temp.: ~ 630 °C

- LD 50 (oral, rat): 2260 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P264 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 2917 19 90 90
- Applications: analytical chemistry, titrant in volumetric analysis, synthesis of organic products, in food industry (E 363).

AC2040 Succinic acid, extra pure, Pharmpur®, NF



assay (acidimetric) . . . . . 99 - 100,5 %  
 identification . . . . . passes test  
 heavy metals (as Pb) . . . . . max. 0,002 %  
 melting range. . . . . 185,0 - 190 °C  
 residue on ignition . . . . . max. 0,025 %

Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC20400500	500 g	
AC20401000	1 kg	
AC2040025P	25 kg	

AC2042 Succinic acid, ExpertQ®, for analysis, ACS, Reag. Ph Eur



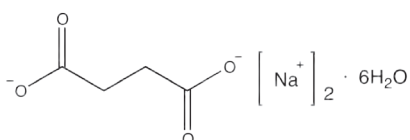
assay (acidimetric) . . . . .min. 99 %  
 identity (IR-spectrum) . . . . .passes test  
 appearance of solution . . . . .passes test  
 insoluble in water . . . . .max. 0,005 %  
 melting point . . . . .185 - 191 °C  
 total nitrogen (as N) . . . . .max. 0,001 %  
 chlorides (Cl) . . . . .max. 0,0005 %  
 phosphates (as PO<sub>4</sub>) . . . . .max. 0,001 %

sulfates (SO<sub>4</sub>) . . . . .max. 0,003 %  
 ammonium (NH<sub>4</sub>) . . . . .max. 0,001 %  
 iron (Fe) . . . . .max. 5 ppm  
 heavy metals (as Pb) . . . . .max. 5 ppm  
 fumaric acid (HPLC) . . . . .max. 0,5 %  
 residue on ignition . . . . .max. 0,02 %  
 water (K.F.) . . . . .max. 0,5 %

ART. NO.	VOLUME	CONTAINER
AC20420100	100 g	0
AC20420250	250 g	0

## SUCCINIC ACID, DISODIUM SALT HEXAHYDRATE

SO0645 Succinic acid, disodium salt hexahydrate, ExpertQ®, for analysis



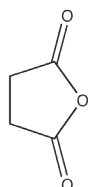
- Synonyms: di-Sodium succinate hexahydrate
- C<sub>4</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>6</sub>·6H<sub>2</sub>O
- M = 270,15 g/mol
- CAS [6106-21-4]
- EINECS-No.: 205-778-7
- Solub. in water: (35 °C): 349 g/l
- Tariff number: 2917 19 90 90
- Applications: synthesis of organic products, in food industry, in the pharmaceuticals industry.

assay (titr. with HClO<sub>4</sub>, referred to dried sample) . . . . .min. 99 %  
 identity (IR-spectrum) . . . . .passes test  
 chlorides (Cl) . . . . .max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . .max. 0,005 %  
 cadmium (Cd) . . . . .max. 5 ppm  
 calcium (Ca) . . . . .max. 0,001 %  
 chromium (Cr) . . . . .max. 5 ppm  
 cobalt (Co) . . . . .max. 5 ppm  
 copper (Cu) . . . . .max. 5 ppm  
 iron (Fe) . . . . .max. 5 ppm  
 lead (Pb) . . . . .max. 5 ppm  
 magnesium (Mg) . . . . .max. 5 ppm  
 manganese (Mn) . . . . .max. 5 ppm  
 nickel (Ni) . . . . .max. 5 ppm  
 potassium (K) . . . . .max. 0,005 %  
 zinc (Zn) . . . . .max. 5 ppm  
 water (K.F.) . . . . .38 - 40 %

ART. NO.	VOLUME	CONTAINER
SO06450500	500 g	0

## SUCCINIC ANHYDRIDE

AN0320 Succinic anhydride, EssentQ®



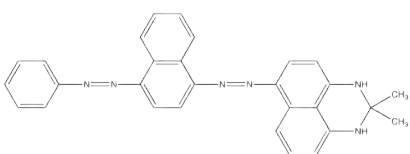
- Synonyms: 2,5-Dioxotetrahydrofuran
- C<sub>4</sub>H<sub>4</sub>O<sub>3</sub>
- M = 100,07 g/mol
- CAS [108-30-5]
- EINECS-No.: 203-570-0
- Solub. in water: (20 °C): 67 g/l (hydrolysis reaction)
- Melting point: 119 °C
- Boiling point: 261 °C
- Flash pt. 157 °C
- Vapour pressure: (92 °C) 1,3 hPa
- LD 50 (oral, rat): 1510 mg/kg
- EC-Index-No.: 607-103-00-5
- GHS-signal word: Warning
- GHS-H sentences: H302 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P304 + P340 - P405 - P501a
- Tariff number: 2917 19 90 90
- Applications: laboratory reagent, synthesis of organic products, in food industry, manufacture of dyes, manufacture of adhesives.

assay (morpholine method) . . . . .min. 99 %  
 identity (IR-spectrum) . . . . .passes test  
 residue on ignition . . . . .max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AN03201000	1 kg	0
AN0320005P	5 kg	0

## SUDAN BLACK B, C.I. 26150

NE0050 Sudan Black B, C.I. 26150, for microscopy



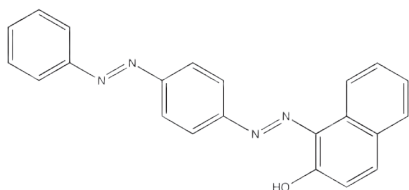
- Synonyms: 2,3-Dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-naphthaleny]azo]-1H-perimidine, SBB
- C<sub>29</sub>H<sub>24</sub>N<sub>2</sub>
- M = 456,55 g/mol
- CAS [4197-25-5]
- EINECS-No.: 224-087-1
- Solub. in water: (20 °C): insoluble
- Melting point: 150 - 154 °C
- LD 50 (oral, rat): > 15000 mg/kg
- Tariff number: 3204 19 00 90
- Applications: indicator, microscopy, in the textile industry.

Absorption maximum λ (in ethanol) . . . . .596 - 605 nm  
 Absorptivity (A1%/1 cm; λ max.) . . . . .390 - 670  
 loss on drying (105 °C) . . . . .max. 1%

ART. NO.	VOLUME	CONTAINER
NE00500025	25 g	0

## SUDAN III, C.I. 26100

SU0040 Sudan III, C.I. 26100, for microscopy



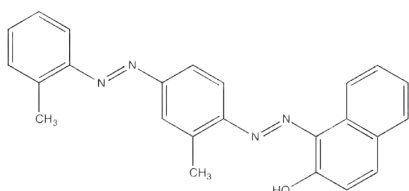
- Synonyms: 1-(p-Phenylazophenylazo)-2-naphthol, Sudan red BK
- $C_{22}H_{16}N_4O$
- $M = 352,40$  g/mol
- CAS [85-86-9]
- EINECS-No.: 201-638-4
- Tariff number: 3204 19 00 90
- Applications: microscopy, bacterium staining.

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
SU00400025	25 g	0
SU00400100	100 g	0

## SUDAN IV, C.I. 26105

SU0045 Sudan IV, C.I. 26105, for microscopy



- Synonyms: 1-[2-Methyl-4-(2-methylphenylazo)phenylazo]-2-naphthol, Solvent red 24
- $C_{24}H_{20}N_4O$
- $M = 380,45$  g/mol
- CAS [85-83-6]
- EINECS-No.: 201-635-8
- GHS-signal word: Warning
- GHS-H sentences: H312 - H332
- GHS-P sentences: P261 - P280 - P322 - P304 + P340 - P363 - P501a
- Tariff number: 2927 00 00 90
- Applications: microscopy, bacterium staining.

suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
SU00450025	25 g	0

## SULFAMIC ACID

- Synonyms: Amidosulfonic acid, Sulfaminic acid, Sulfamidic acid, Aminosulfonic acid
- $HSO_2NH_2$
- $M = 97,09$  g/mol
- CAS [5329-14-6]
- EINECS-No.: 226-218-8
- Solub. in water: (20 °C): 213 g/l

- Melting point: 205 °C (decomposes)
- LD 50 (oral, rat): 3160 mg/kg
- EC-Index-No.: 016-026-00-0
- ADR: 8 C2 III UN 2967
- IMDG: 8 III UN 2967
- IATA/ICAO: 8 III UN 2967
- GHS-signal word: Warning

- GHS-H sentences: H315 - H319 - H412
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 2811 19 80 10
- Applications: analytical chemistry, titrant in volumetric analysis (reference material), for determination of nitrous acid.

AC2050 Sulfamic acid, EssentQ®

assay (acidimetric) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
AC20501000	1 kg	0

AC2051 Sulfamic acid, EssentQ®

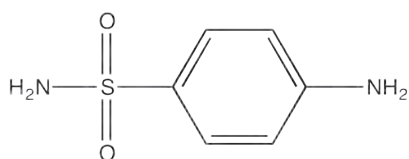
assay (acidimetric) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
sulfates ( $SO_4$ ) . . . . . max. 0,01 %  
copper (Cu) . . . . . max. 0,001 %  
heavy metals (as Pb) . . . . . max. 0,001 %

iron (Fe) . . . . . max. 5 ppm  
lead (Pb) . . . . . max. 0,001 %  
nickel (Ni) . . . . . max. 0,001 %  
residue on ignition . . . . . max. 0,05 %  
water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
AC20511000	1 kg	0
AC2051025P	25 kg	0

## SULFANILAMIDE

SU0060 Sulfanilamide, extra pure, Pharmpur®, Ph Eur



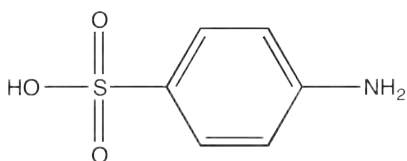
- Synonyms: 4-Aminobenzenesulfonamide
- $C_6H_8N_2O_2S$
- $M = 172,17$  g/mol
- CAS [63-74-1]
- EINECS-No.: 200-563-4
- Solub. in water: (25 °C): 7,5 g/l
- Melting point: 163 - 167 °C
- LD 50 (oral, rat): 3900 mg/kg
- Tariff number: 2935 00 90 90
- Applications: analytical chemistry, laboratory reagent, antibacterian, in the pharmaceuticals industry, in pharma industry.

assay (bromometric, referred to dried sample) . . . . . 99,0 - 101,0 %  
identification . . . . . passes test  
acidity . . . . . passes test  
related substances . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
loss on drying (105 °C) . . . . . max. 0,5 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SU00600100	100 g	0
SU00601000	1 kg	0

## SULFANILIC ACID

AC2060 Sulfanilic acid anhydrous, ExpertQ®, for analysis, ACS, Reag. Ph Eur



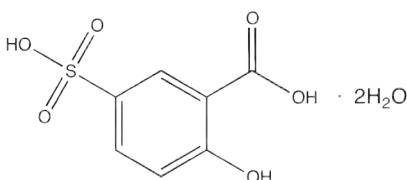
- Synonyms: 4-Aminobenzenesulfonic acid, Aniline-4-sulfonic acid, p-Anilinesulfonic acid
- $C_6H_7NO_3S$
- $M = 173,19 \text{ g/mol}$
- CAS [121-57-3]
- EINECS-No.: 204-482-5
- Solub. in water: (20 °C): 10 g/l
- Melting point: 288 °C (decomposes)
- LD 50 (oral, rat): 12300 mg/kg
- EC-Index-No.: 612-014-00-X
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H317
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 2921 42 00 60
- Applications: analytical chemistry, laboratory reagent, for determination of: nitrites, synthesis of organic products, manufacture of dyes, antibacterian.

assay (acidimetric) . . . . . 99,0 - 102,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in  $Na_2CO_3$  solution . . . . . max. 0,01 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 nitrites ( $NO_2$ ) . . . . . max. 0,5 ppm  
 sulfates ( $SO_4$ ) . . . . . max. 0,005 %  
 heavy metals . . . . . max. 0,001 %  
 loss on drying . . . . . max. 0,5 %  
 residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AC20600100	100 g	
AC20600250	250 g	
AC20601000	1 kg	

## 5-SULFOSALICYLIC ACID DIHYDRATE

AC2093 5-Sulfosalicylic acid dihydrate, ExpertQ®, for analysis, ACS



- Synonyms: 3-Carboxy-4-hydrobenzenesulfonic acid, 2-Hydroxy-5-sulfobenzoic acid, Salicylsulfonic acid
- $C_7H_6O_6S \cdot 2H_2O$
- $M = 254,22 \text{ g/mol}$
- CAS [5965-83-3]
- EINECS-No.: 202-555-6
- Solub. in water: (20 °C): freely soluble
- Melting point: 120 °C
- Flash pt. ~ 150 °C
- LD 50 (oral, rat): 2450 mg/kg (anhydrous substance)
- ADR: 8 C4 III UN 3261
- IMDG: 8 III UN 3261
- IATA/ICAO: 8 III UN 3261
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2918 29 10 90
- Applications: synthesis of organic products, in lubricant compositions, indicator, analytical chemistry.

assay (acidimetric) . . . . . 99,0 - 101,0 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in water . . . . . max. 0,005 %  
 chlorides (Cl) . . . . . max. 0,001 %  
 sulfates ( $SO_4$ ) . . . . . max. 0,02 %  
 heavy metals (as Pb) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,001 %  
 salicylic acid . . . . . max. 0,04 %  
 residue on ignition . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
AC20930250	250 g	
AC20931000	1 kg	

## SULFUR FLOWER

- S
- $M = 32,06 \text{ g/mol}$
- CAS [7704-34-9]
- EINECS-No.: 231-722-6
- Solub. in water: (20 °C): almost insoluble
- Melting point: 113 - 119 °C
- Boiling point: 444 °C

- Flash pt. 160 °C
- Ignition temp.: 235 °C (dust)
- Vapour pressure: (20 °C) 5000 mg/kg
- ADR: 4.1 F3 III UN 1350
- IMDG: 4.1 III UN 1350
- IATA/ICAO: 4.1 III UN 1350
- GHS-signal word: Warning

- GHS-H sentences: H315
- GHS-P sentences: P280 - P264 - P321 - P362 - P332 + P313 - P302 + P352
- Tariff number: 2802 00 00 00
- Applications: analytical chemistry, laboratory reagent, in the rubber industry, fungicide, for pharmaceutical use, in pharma industry.

AZ0040 Sulfur flower, EssentQ®, washed



assay (acidimetric) . . . . . min 99 %  
 identity (IR-spectrum) . . . . . passes test  
 residue on ignition . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
AZ00400500	500 g	

ART. NO.	VOLUME	CONTAINER
AZ00401000	1 kg	

AZ0041 Sulfur flower, extra pure, Pharmpur®, Ph Eur, BP



assay (acidimetric) . . . . . 99,0 - 101,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . colourless  
 acidity or alkalinity . . . . . passes test  
 odour . . . . . passes test  
 chlorides (Cl) . . . . . max. 100 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 100 ppm

sulfides . . . . . passes test  
 residue on ignition . . . . . max. 0,2 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AZ00410500	500 g	Ⓟ
AZ00411000	1 kg	Ⓟ
AZ0041025P	25 kg	Ⓟ

**SULFURIC ACID, 95 - 97%**

- Synonyms: Sulphuric acid
- H<sub>2</sub>SO<sub>4</sub>
- M<sub>r</sub> = 98,08 g/mol
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density: 1,84 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -15 °C

- Boiling point: ~ 310 °C
- Vapour pressure: (20 °C) ~ 0,0001 hPa
- LD 50 (oral, rat): 2140 mg/kg
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 1830
- IMDG: 8 II UN 1830
- IATA/ICAO: 8 II UN 1830
- GHS-signal word: Danger

- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, acidifying agent, synthesis of organic products, nitrogen determinations.

AC2065 Sulfuric acid, 95 - 97%, EssentQ®



assay (acidimetric) . . . . . 95 - 97 %  
 residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
AC20651000	1 l	Ⓟ
AC20652500	2,5 l	Ⓟ

ART. NO.	VOLUME	CONTAINER
AC2065005P	5 l	Ⓟ
AC2065025P	25 l	Ⓟ

AC2066 Sulfuric acid, 95 - 98%, extra pure, Pharmpur®, Ph Eur, BP, NF, packed in HDPE bottles



assay (acidimetric) . . . . . 95,0 - 98,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 chlorides (Cl) . . . . . max. 50 ppm  
 nitrates (NO<sub>3</sub>) . . . . . passes test  
 arsenic (As) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 25 ppm

reducing substances . . . . . passes test  
 residue on ignition . . . . . max. 0,005 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 Avoid exposure to light

ART. NO.	VOLUME	CONTAINER
AC20661000	1 l	Ⓟ
AC20662500	2,5 l	Ⓟ
AC2066005P	5 l	Ⓟ
AC2066025P	25 l	Ⓟ

AC2070 Sulfuric acid, 95 - 98%, extra pure, Pharmpur®, Ph Eur, BP, NF



assay (acidimetric) . . . . . 95,0 - 98,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 chlorides (Cl) . . . . . max. 50 ppm  
 nitrates (NO<sub>3</sub>) . . . . . passes test  
 arsenic (As) . . . . . max. 1 ppm  
 iron (Fe) . . . . . max. 25 ppm

reducing substances . . . . . passes test  
 residue on ignition . . . . . max. 0,005 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 Avoid exposure to light

ART. NO.	VOLUME	CONTAINER
AC20701000	1 l	Ⓟ
AC20702500	2,5 l	Ⓟ

AC2069 Sulfuric acid, 95 - 97%, ExpertQ®, for analysis, ISO



assay (acidimetric) . . . . . 95,0 - 97,0 %  
 colour (Hazen) . . . . . max. 10  
 chlorides (Cl) . . . . . max. 0,00001 %  
 nitrates and nitrites (as NO<sub>3</sub>) . . . . . max. 0,00002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,0001 %  
 arsenic (As) . . . . . max. 0,01 ppm  
 barium (Ba) . . . . . max. 0,05 ppm  
 beryllium (Be) . . . . . max. 0,01 ppm  
 bismuth (Bi) . . . . . max. 0,05 ppm  
 boron (B) . . . . . max. 0,05 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,1 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,01 ppm  
 copper (Cu) . . . . . max. 0,01 ppm  
 gallium (Ga) . . . . . max. 0,05 ppm  
 germanium (Ge) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max. 0,05 ppm  
 indium (In) . . . . . max. 0,05 ppm

iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,01 ppm  
 lithium (Li) . . . . . max. 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,05 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,1 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,01 ppm  
 sodium (Na) . . . . . max. 0,3 ppm  
 strontium (Sr) . . . . . max. 0,01 ppm  
 thallium (Tl) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,02 ppm  
 vanadium (V) . . . . . max. 0,01 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 residue on ignition . . . . . max. 0,0003 %

ART. NO.	VOLUME	CONTAINER
AC20691000	1 l	Ⓟ
AC20691001	1 l	Ⓟ
AC20692500	2,5 l	Ⓟ
AC20692501	2,5 l	Ⓟ



## AC2071 Sulfuric acid, 96% ± 0,1%, ExpertQ®, for analysis



assay (acidimetric) . . . . .	95,9 - 96,1 %	iron (Fe) . . . . .	max. 0,1 ppm
colour (Hazen) . . . . .	max. 10	lead (Pb) . . . . .	max. 0,01 ppm
chlorides (Cl) . . . . .	max. 0,00001 %	lithium (Li) . . . . .	max. 0,01 ppm
nitrites and nitrites (as NO <sub>2</sub> ) . . . . .	max. 0,00002 %	magnesium (Mg) . . . . .	max. 0,05 ppm
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,00005 %	manganese (Mn) . . . . .	max. 0,01 ppm
aluminium (Al) . . . . .	max. 0,05 ppm	molybdenum (Mo) . . . . .	max. 0,02 ppm
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,0001 %	nickel (Ni) . . . . .	max. 0,02 ppm
arsenic (As) . . . . .	max. 0,01 ppm	platinum (Pt) . . . . .	max. 0,1 ppm
barium (Ba) . . . . .	max. 0,05 ppm	potassium (K) . . . . .	max. 0,1 ppm
beryllium (Be) . . . . .	max. 0,02 ppm	silver (Ag) . . . . .	max. 0,01 ppm
bismuth (Bi) . . . . .	max. 0,05 ppm	sodium (Na) . . . . .	max. 0,3 ppm
boron (B) . . . . .	max. 0,05 ppm	strontium (Sr) . . . . .	max. 0,01 ppm
cadmium (Cd) . . . . .	max. 0,01 ppm	thallium (Tl) . . . . .	max. 0,02 ppm
calcium (Ca) . . . . .	max. 0,1 ppm	tin (Sn) . . . . .	max. 0,05 ppm
chromium (Cr) . . . . .	max. 0,02 ppm	titanium (Ti) . . . . .	max. 0,02 ppm
cobalt (Co) . . . . .	max. 0,01 ppm	vanadium (V) . . . . .	max. 0,01 ppm
copper (Cu) . . . . .	max. 0,01 ppm	zinc (Zn) . . . . .	max. 0,05 ppm
gallium (Ga) . . . . .	max. 0,05 ppm	zirconium (Zr) . . . . .	max. 0,02 ppm
germanium (Ge) . . . . .	max. 0,02 ppm	substances reducing KMnO <sub>4</sub> . . . . .	passes test
gold (Au) . . . . .	max. 0,05 ppm	residue on ignition . . . . .	max. 0,0003 %
indium (In) . . . . .	max. 0,05 ppm		

ART. NO.	VOLUME	CONTAINER
AC20711000	1 l	0
AC20712500	2,5 l	0
AC2071025P	25 l	0

## AC2067 Sulfuric acid, 95 - 97%, ExpertQ®, for analysis, ISO, Reag. Ph Eur, packed in HDPE bottles



assay (acidimetric) . . . . .	95,0 - 97,0 %	iron (Fe) . . . . .	max. 0,1 ppm
appearance . . . . .	passes test	lead (Pb) . . . . .	max. 0,01 ppm
colour (Hazen) . . . . .	max. 10	lithium (Li) . . . . .	max. 0,01 ppm
density (20°/20°) . . . . .	1,834 - 1,837	magnesium (Mg) . . . . .	max. 0,05 ppm
chlorides (Cl) . . . . .	max. 0,00001 %	manganese (Mn) . . . . .	max. 0,01 ppm
nitrites (NO <sub>2</sub> ) . . . . .	max. 0,2 ppm	molybdenum (Mo) . . . . .	max. 0,02 ppm
nitrites and nitrites (as NO <sub>2</sub> ) . . . . .	max. 0,00002 %	nickel (Ni) . . . . .	max. 0,02 ppm
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,00005 %	potassium (K) . . . . .	max. 0,1 ppm
aluminium (Al) . . . . .	max. 0,05 ppm	silver (Ag) . . . . .	max. 0,01 ppm
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,0001 %	sodium (Na) . . . . .	max. 0,3 ppm
arsenic (As) . . . . .	max. 0,01 ppm	strontium (Sr) . . . . .	max. 0,01 ppm
barium (Ba) . . . . .	max. 0,05 ppm	thallium (Tl) . . . . .	max. 0,02 ppm
beryllium (Be) . . . . .	max. 0,01 ppm	titanium (Ti) . . . . .	max. 0,02 ppm
bismuth (Bi) . . . . .	max. 0,05 ppm	vanadium (V) . . . . .	max. 0,01 ppm
cadmium (Cd) . . . . .	max. 0,01 ppm	zinc (Zn) . . . . .	max. 0,05 ppm
calcium (Ca) . . . . .	max. 0,1 ppm	zirconium (Zr) . . . . .	max. 0,02 ppm
chromium (Cr) . . . . .	max. 0,02 ppm	oxidisable substances . . . . .	passes test
cobalt (Co) . . . . .	max. 0,01 ppm	substances reducing KMnO <sub>4</sub> . . . . .	max. 2 ppm
copper (Cu) . . . . .	max. 0,01 ppm	residue on ignition . . . . .	max. 0,0003 %
germanium (Ge) . . . . .	max. 0,02 ppm	Avoid exposure to light	
heavy metals (as Pb) . . . . .	max. 1 ppm		

ART. NO.	VOLUME	CONTAINER
AC20671000	1 l	0
AC20672500	2,5l	0
AC2067005P	5 l	0
AC2067025P	25 l	0

## AC2097 Sulfuric acid, 95 - 98%, ExpertQ®, for analysis, ACS, ISO, max. 0,0000005% Hg



assay (acidimetric) . . . . .	95,0 - 98,0 %	iron (Fe) . . . . .	max. 0,1 ppm
appearance . . . . .	passes test	lead (Pb) . . . . .	max. 0,02 ppm
colour (Hazen) . . . . .	max. 10	lithium (Li) . . . . .	max. 0,01 ppm
density (20°/20°) . . . . .	1,834 - 1,837	magnesium (Mg) . . . . .	max. 0,05 ppm
chlorides (Cl) . . . . .	max. 0,00001 %	manganese (Mn) . . . . .	max. 0,01 ppm
nitrites (NO <sub>2</sub> ) . . . . .	max. 0,00002 %	mercury (Hg) . . . . .	max. 0,005 ppm
nitrites and nitrites (as NO <sub>2</sub> ) . . . . .	max. 0,2 %	molybdenum (Mo) . . . . .	max. 0,05 ppm
phosphates (as PO <sub>4</sub> ) . . . . .	max. 0,00005 %	nickel (Ni) . . . . .	max. 0,02 ppm
aluminium (Al) . . . . .	max. 0,05 ppm	potassium (K) . . . . .	max. 0,1 ppm
ammonium (NH <sub>4</sub> ) . . . . .	max. 0,0002 %	silver (Ag) . . . . .	max. 0,02 ppm
arsenic (As) . . . . .	max. 0,01 ppm	sodium (Na) . . . . .	max. 0,5 ppm
barium (Ba) . . . . .	max. 0,05 ppm	strontium (Sr) . . . . .	max. 0,02 ppm
beryllium (Be) . . . . .	max. 0,01 ppm	thallium (Tl) . . . . .	max. 0,05 ppm
bismuth (Bi) . . . . .	max. 0,1 ppm	titanium (Ti) . . . . .	max. 0,1 ppm
cadmium (Cd) . . . . .	max. 0,02 ppm	vanadium (V) . . . . .	max. 0,01 ppm
calcium (Ca) . . . . .	max. 0,2 ppm	zinc (Zn) . . . . .	max. 0,05 ppm
chromium (Cr) . . . . .	max. 0,05 ppm	zirconium (Zr) . . . . .	max. 0,1 ppm
cobalt (Co) . . . . .	max. 0,01 ppm	oxidisable substances . . . . .	passes test
copper (Cu) . . . . .	max. 0,01 ppm	substances reducing KMnO <sub>4</sub> . . . . .	passes test
germanium (Ge) . . . . .	max. 0,05 ppm	residue on ignition . . . . .	max. 0,0005 %
heavy metals (as Pb) . . . . .	max. 1 ppm		

ART. NO.	VOLUME	CONTAINER
AC20971000	1 l	0
AC20972500	2,5 l	0

AC2114 Sulfuric acid, 96%, Ultratrace®, ppb-trace analysis grade

assay (acidimetric) . . . . .	93 - 98 %
colour (Hazen) . . . . .	max. 10
chlorides (Cl) . . . . .	max. 0,00007 %
nitrates (NO <sub>3</sub> ) . . . . .	max. 0,00002 %
total phosphorus (P) . . . . .	max. 0,000005 %
substances reducing KMnO <sub>4</sub> . . . . .	.passes test
aluminium (Al) . . . . .	max. 1 ppb
antimony (Sb) . . . . .	max. 1 ppb
arsenic (As) . . . . .	max. 0,5 ppb
barium (Ba) . . . . .	max. 0,1 ppb
beryllium (Be) . . . . .	max. 0,1 ppb
bismuth (Bi) . . . . .	max. 0,1 ppb
cadmium (Cd) . . . . .	max. 0,5 ppb
calcium (Ca) . . . . .	max. 1 ppb
cerium (Ce) . . . . .	max. 0,1 ppb
cesium (Cs) . . . . .	max. 0,1 ppb
chromium (Cr) . . . . .	max. 0,5 ppb
cobalt (Co) . . . . .	max. 0,5 ppb
copper (Cu) . . . . .	max. 0,5 ppb
dysprosium (Dy) . . . . .	max. 0,1 ppb
erbium (Er) . . . . .	max. 0,1 ppb
europium (Eu) . . . . .	max. 0,1 ppb
gadolinium (Gd) . . . . .	max. 0,1 ppb
gallium (Ga) . . . . .	max. 0,1 ppb
germanium (Ge) . . . . .	max. 1 ppb
hafnium (Hf) . . . . .	max. 0,1 ppb
holmium (Ho) . . . . .	max. 0,1 ppb
indium (In) . . . . .	max. 0,1 ppb
iron (Fe) . . . . .	max. 1 ppb
lanthanum (La) . . . . .	max. 0,1 ppb
lead (Pb) . . . . .	max. 0,1 ppb
lithium (Li) . . . . .	max. 0,5 ppb

lutetium (Lu) . . . . .	max. 0,1 ppb
magnesium (Mg) . . . . .	max. 1 ppb
manganese (Mn) . . . . .	max. 0,5 ppb
mercury (Hg) . . . . .	max. 0,1 ppb
molybdenum (Mo) . . . . .	max. 0,5 ppb
neodymium (Nd) . . . . .	max. 0,1 ppb
nickel (Ni) . . . . .	max. 0,5 ppb
niobium (Nb) . . . . .	max. 0,1 ppb
potassium (K) . . . . .	max. 1 ppb
praseodymium (Pr) . . . . .	max. 0,1 ppb
rhodium (Rh) . . . . .	max. 0,5 ppb
rubidium (Rb) . . . . .	max. 0,5 ppb
samarium (Sm) . . . . .	max. 0,1 ppb
scandium (Sc) . . . . .	max. 0,1 ppb
selenium (Se) . . . . .	max. 10 ppb
silver (Ag) . . . . .	max. 1 ppb
sodium (Na) . . . . .	max. 1 ppb
strontium (Sr) . . . . .	max. 0,5 ppb
tellurium (Te) . . . . .	max. 0,1 ppb
terbium (Tb) . . . . .	max. 0,1 ppb
thallium (Tl) . . . . .	max. 0,1 ppb
thorium (Th) . . . . .	max. 0,1 ppb
thulium (Tm) . . . . .	max. 0,1 ppb
tin (Sn) . . . . .	max. 1 ppb
titanium (Ti) . . . . .	max. 1 ppb
tungsten (W) . . . . .	max. 0,5 ppb
uranium (U) . . . . .	max. 0,1 ppb
vanadium (V) . . . . .	max. 0,5 ppb
ytterbium (Yb) . . . . .	max. 0,1 ppb
yttrium (Y) . . . . .	max. 0,1 ppb
zinc (Zn) . . . . .	max. 1 ppb
zirconium (Zr) . . . . .	max. 0,5 ppb

ART. NO.	VOLUME	CONTAINER
AC21141000	1 l	Ⓟ

AC2115 Sulfuric acid, 96%, Ultratrace®, ppt-trace analysis grade

assay (acidimetric) . . . . .	93 - 98 %
aluminium (Al) . . . . .	max. 50 ppt
antimony (Sb) . . . . .	max. 50 ppt
arsenic (As) . . . . .	max. 500 ppt
barium (Ba) . . . . .	max. 10 ppt
beryllium (Be) . . . . .	max. 10 ppt
bismuth (Bi) . . . . .	max. 10 ppt
cadmium (Cd) . . . . .	max. 10 ppt
calcium (Ca) . . . . .	max. 50 ppt
cerium (Ce) . . . . .	max. 10 ppt
cesium (Cs) . . . . .	max. 10 ppt
chromium (Cr) . . . . .	max. 10 ppt
cobalt (Co) . . . . .	max. 10 ppt
copper (Cu) . . . . .	max. 10 ppt
dysprosium (Dy) . . . . .	max. 10 ppt
erbium (Er) . . . . .	max. 10 ppt
europium (Eu) . . . . .	max. 10 ppt
gadolinium (Gd) . . . . .	max. 10 ppt
gallium (Ga) . . . . .	max. 10 ppt
germanium (Ge) . . . . .	max. 100 ppt
hafnium (Hf) . . . . .	max. 10 ppt
holmium (Ho) . . . . .	max. 10 ppt
indium (In) . . . . .	max. 10 ppt
iron (Fe) . . . . .	max. 50 ppt
lanthanum (La) . . . . .	max. 10 ppt
lead (Pb) . . . . .	max. 10 ppt
lithium (Li) . . . . .	max. 10 ppt
lutetium (Lu) . . . . .	max. 10 ppt
magnesium (Mg) . . . . .	max. 50 ppt
manganese (Mn) . . . . .	max. 10 ppt

mercury (Hg) . . . . .	max. 100 ppt
molybdenum (Mo) . . . . .	max. 10 ppt
neodymium (Nd) . . . . .	max. 10 ppt
nickel (Ni) . . . . .	max. 50 ppt
niobium (Nb) . . . . .	max. 10 ppt
potassium (K) . . . . .	max. 50 ppt
praseodymium (Pr) . . . . .	max. 10 ppt
rhodium (Rh) . . . . .	max. 50 ppt
rubidium (Rb) . . . . .	max. 10 ppt
samarium (Sm) . . . . .	max. 10 ppt
scandium (Sc) . . . . .	max. 10 ppt
selenium (Se) . . . . .	max. 500 ppt
silver (Ag) . . . . .	max. 50 ppt
sodium (Na) . . . . .	max. 50 ppt
strontium (Sr) . . . . .	max. 10 ppt
tellurium (Te) . . . . .	max. 50 ppt
terbium (Tb) . . . . .	max. 10 ppt
thallium (Tl) . . . . .	max. 10 ppt
thorium (Th) . . . . .	max. 10 ppt
thulium (Tm) . . . . .	max. 10 ppt
tin (Sn) . . . . .	max. 50 ppt
titanium (Ti) . . . . .	max. 50 ppt
tungsten (W) . . . . .	max. 10 ppt
uranium (U) . . . . .	max. 10 ppt
vanadium (V) . . . . .	max. 10 ppt
ytterbium (Yb) . . . . .	max. 10 ppt
yttrium (Y) . . . . .	max. 10 ppt
zinc (Zn) . . . . .	max. 50 ppt
zirconium (Zr) . . . . .	max. 10 ppt

ART. NO.	VOLUME	CONTAINER
AC21150250	250 ml	Ⓟ
AC21150500	500 ml	Ⓟ

**SULFURIC ACID, 90 - 91%**

AC2064 Sulfuric acid, solution 90 - 91% w/w, for Gerber fat determination and testing nitrates in milk

- Synonyms: Sulphuric acid
- H<sub>2</sub>SO<sub>4</sub>
- M = 98,08 g/mol
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density: 1,81 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Boiling point: ~ 300 °C
- Vapour pressure: (20 °C) ~ 0,0001 hPa
- LD 50 (oral, rat): 2140 mg/kg (pure substance)
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 1830
- IMDG: 8 II UN 1830
- IATA/ICAO: 8 II UN 1830

- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, for determination of: fats and nitrates in milk.

assay (acidimetric) . . . . . 90 - 91 %  
density (15<sup>o</sup>/4°) . . . . . 1,820 - 1,825  
nitrates (NO<sub>3</sub>) . . . . . max. 0,00002 %  
suitability for determination of fat in milk . . . . . passes test  
Avoid exposure to light

ART. NO.	VOLUME	CONTAINER
AC20641000	1 l	Ⓟ
AC20642500	2,5 l	Ⓟ
AC2064005P	5 l	Ⓟ
AC2064025P	25 l	Ⓟ

## SULFURIC ACID, 62%

AC2092 Sulfuric acid, solution 62% w/w, according to Röder and Van Gulik, for determination of fat in milk



- Synonyms: Sulphuric acid
- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,52 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 2140 mg/kg
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 1830
- IMDG: 8 II UN 1830

- IATA/ICAO: 8 II UN 1830
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, acidifying agent, for determination of: fats in milk.

assay (acidimetric) . . . . . min. 62 %  
 suitability for determination of  
 fat in milk . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AC20921000	1 l	0
AC20922500	2,5 l	0

## SULFURIC ACID, 50%

AC2079 Sulfuric acid, solution 50% w/v, ExpertQ®, for analysis



- Synonyms: Sulphuric acid
- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,28 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, neutralising agent.

assay (acidimetric) . . . . . min. 50 %  
 colour (Hazen) . . . . . max. 10  
 chlorides (Cl) . . . . . max. 0,00001 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,00002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 0,00005 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,0002 %  
 arsenic (As) . . . . . max. 0,01 ppm  
 barium (Ba) . . . . . max. 0,05 ppm  
 beryllium (Be) . . . . . max. 0,01 ppm  
 bismuth (Bi) . . . . . max. 0,05 ppm  
 cadmium (Cd) . . . . . max. 0,02 ppm  
 calcium (Ca) . . . . . max. 0,2 ppm  
 cobalt (Co) . . . . . max. 0,01 ppm  
 copper (Cu) . . . . . max. 0,01 ppm  
 germanium (Ge) . . . . . max. 0,05 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,02 ppm  
 lithium (Li) . . . . . max. 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,05 ppm

manganese (Mn) . . . . . max. 0,01 ppm  
 molybdenum (Mo) . . . . . max. 0,05 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,1 ppm  
 vanadium (V) . . . . . max. 0,01 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 zirconium (Zr) . . . . . max. 0,1 ppm  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 residue on ignition . . . . . max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC20791000	1 l	0

## SULFURIC ACID, SOLUTION 1/3 W/V

AC2074 Sulfuric acid, solution 1/3 w/v



- Synonyms: Sulphuric acid
- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $\sim 1,2 \text{ g/cm}^3$
- Boiling point:  $\sim 135 \text{ }^\circ\text{C}$
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796

- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, neutralising agent.

assay (acidimetric) . . . . . approx. 33,3 %  
 Acid liquor for determination of sulphurous gas (SO<sub>2</sub>)  
 in wines

ART. NO.	VOLUME	CONTAINER
AC20740500	500 ml	0
AC20741000	1 l	0

## SULFURIC ACID, 25%

AC2078 Sulfuric acid, solution 25% w/w, ExpertQ®, for analysis



- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,18 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Boiling point:  $\sim 103 \text{ }^\circ\text{C}$
- LD 50 (oral, rat): 2140 mg/kg
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, neutralising agent, for determination of: barium.

assay (acidimetric) . . . . . min. 25 %  
 colour (Hazen) . . . . . max. 10  
 chlorides (Cl) . . . . . max. 0,00005 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,00002 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,0002 %  
 arsenic (As) . . . . . max. 0,01 ppm  
 barium (Ba) . . . . . max. 0,05 ppm  
 beryllium (Be) . . . . . max. 0,01 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 cadmium (Cd) . . . . . max. 0,02 ppm  
 calcium (Ca) . . . . . max. 0,2 ppm  
 chromium (Cr) . . . . . max. 0,05 ppm  
 cobalt (Co) . . . . . max. 0,01 ppm  
 copper (Cu) . . . . . max. 0,01 ppm  
 germanium (Ge) . . . . . max. 0,05 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,02 ppm  
 lithium (Li) . . . . . max. 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,05 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm

molybdenum (Mo) . . . . . max. 0,05 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max. 0,01 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 titanium (Ti) . . . . . max. 0,1 ppm  
 vanadium (V) . . . . . max. 0,01 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 zirconium (Zr) . . . . . max. 0,1 ppm  
 substances reducing KMnO<sub>4</sub> . . . . . passes test  
 residue on ignition . . . . . max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC20781000	1 l	0

## SULFURIC ACID, 10%

AC2068 Sulfuric acid, solution 10% w/v, EssentQ®



- Synonyms: Sulphuric acid
- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,06 \text{ g/cm}^3$
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, neutralising agent.

assay (acidimetric) . . . . . approx. 10 %  
 colour (Hazen) . . . . . max. 10  
 chlorides (Cl) . . . . . max. 0,00001 %  
 nitrates ( $NO_3$ ) . . . . . max. 0,00002 %  
 phosphates (as  $PO_4$ ) . . . . . max. 0,00005 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 ammonium ( $NH_4$ ) . . . . . max. 0,0002 %  
 arsenic (As) . . . . . max 0,01 ppm  
 barium (Ba) . . . . . max. 0,05 ppm  
 cadmium (Cd) . . . . . max. 0,02 ppm  
 calcium (Ca) . . . . . max. 0,2 ppm  
 chromium (Cr) . . . . . max. 0,05 ppm  
 copper (Cu) . . . . . max 0,01 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,02 ppm  
 lithium (Li) . . . . . max 0,01 ppm  
 magnesium (Mg) . . . . . max. 0,05 ppm  
 manganese (Mn) . . . . . max 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm

potassium (K) . . . . . max. 0,1 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 zinc (Zn) . . . . . max. 0,05 ppm  
 substances reducing  $KMnO_4$  . . . . . passes test  
 residue on ignition . . . . . max. 0,0005 %

ART. NO.	VOLUME	CONTAINER
AC20681000	1 l	

## SULFURIC ACID, VOLUMETRIC SOLUTIONS

AC2089 Sulfuric acid, solution 5 mol/l (10 N)



- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,28 \text{ g/cm}^3$
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2807 00 00 00

- Applications: analytical chemistry, laboratory reagent, neutralising agent.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 $1 \text{ ml} = 0,4904 \text{ g } H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)-aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC20891000	1 l	

AC2075 Sulfuric acid, solution 4 mol/l (8 N), for COD determination, according to ISO 6060



- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $\sim 1,23 \text{ g/cm}^3$
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2807 00 00 00

- Applications: analytical chemistry, laboratory reagent, neutralising agent.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 $1 \text{ ml} = 0,39232 \text{ g } H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)-aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC20751000	1 l	

AC2086 Sulfuric acid, solution 2,5 mol/l (5 N)



- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,15 \text{ g/cm}^3$
- Boiling point:  $\sim 103 \text{ }^\circ\text{C}$
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a

- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, neutralising agent.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 $1 \text{ ml} = 0,2452 \text{ g } H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)-aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC20861000	1 l	

AC2085 Sulfuric acid, solution 1 mol/l (2 N) 

- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,06 \text{ g/cm}^3$
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, neutralising agent.




factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 $1 \text{ ml} = 0,09808 \text{ g } H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)-aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC20851000	1 l	

AC2080 Sulfuric acid, solution 0,5 mol/l (1 N) 

- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,02 \text{ g/cm}^3$
- LD 50 (oral, rat): 2140 mg/kg (pure substance)
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Warning
- GHS-H sentences: H290 -
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.



factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 $1 \text{ ml} = 0,04904 \text{ g } H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)-aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).


ART. NO.	VOLUME	CONTAINER
AC20801000	1 l	
AC2080005P	5 l	
AC2080010C	10 l	

AC2081 Sulfuric acid, solution 0,25 mol/l (0,5 N) 

- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,01 \text{ g/cm}^3$
- LD 50 (oral, rat): 2140 mg/kg (pure substance)
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Warning
- GHS-H sentences: H290 -
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.



factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 $1 \text{ ml} = 0,02452 \text{ g } H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)-aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC20811000	1 l	
AC2081010C	10 l	

AC2084 Sulfuric acid, solution 0,13 mol/l (0,26 N) 

- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,01 \text{ g/cm}^3$
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Warning
- GHS-H sentences: H290 -
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 $1 \text{ ml} = 0,0127504 \text{ g } H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)-aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).



ART. NO.	VOLUME	CONTAINER
AC20841000	1 l	
AC2084005P	5 l	

**AC2106 Sulfuric acid, solution 0,1275 mol/l (0,255 N)**



- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,00 \text{ g/cm}^3$
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Warning
- GHS-H sentences: H290
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 1 ml = 0,012505 g  $H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC2106005P	5 l	
AC2106010C	10 l	

**AC2088 Sulfuric acid, solution 0,125 mol/l (0,25 N)**



- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,01 \text{ g/cm}^3$
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796
- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Warning
- GHS-H sentences: H290 -
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.



factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 1 ml = 0,01226 g  $H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC20881000	1 l	

**AC2087 Sulfuric acid, solution 0,1 mol/l (0,2 N)**

- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $\sim 1,00 \text{ g/cm}^3$
- EC-Index-No.: 016-020-00-8
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.




factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 1 ml = 0,009808 g  $H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC20871000	1 l	
AC2087010C	10 l	

**AC2082 Sulfuric acid, solution 0,05 mol/l (0,1 N)**

- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $\sim 1,00 \text{ g/cm}^3$
- LD 50 (oral, rat): 2140 mg/kg (pure substance)
- EC-Index-No.: 016-020-00-8
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 1 ml = 0,004904 g  $H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC20821000	1 l	
AC2082005P	5 l	
AC2082010C	10 l	

**AC2076 Sulfuric acid, solution 0,025 mol/l (0,05 N)**

- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,00 \text{ g/cm}^3$
- EC-Index-No.: 016-020-00-8
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty  $\pm 0,001$   
 1 ml = 0,002452 g  $H_2SO_4$   
 This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)- aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC20761000	1 l	



## AC2083 Sulfuric acid, solution 0,01 mol/l (0,02 N)

- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,00 \text{ g/cm}^3$
- EC-Index-No.: 016-020-00-8
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
uncertainty  $\pm 0,001$   
1 ml = 0,0009808 g  $H_2SO_4$   
This volumetric solution was checked by means of potentiometric methods using Scharlau's tris(hydroxymethyl)-aminomethane volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
AC20831000	1 l	

## AC2073 Sulfuric acid, concentrated solution to prepare 1 l of solution 0,5 mol/l (1 N)

- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,29 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Boiling point:  $\sim 135^\circ\text{C}$
- LD 50 (oral, rat): 2140 mg/kg
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796

- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, titrant in volumetric analysis.

amount of substance: 49,040 g  $H_2SO_4$   
concentrated solution . . . . . 2,5 mol/l  $\pm 0,1 \%$

ART. NO.	VOLUME	CONTAINER
AC207300PA	u.	

## AC2072 Sulfuric acid, concentrated solution to prepare 1 l of solution 0,05 mol/l (0,1 N)

- $H_2SO_4$
- $M = 98,08 \text{ g/mol}$
- CAS [7664-93-9]
- EINECS-No.: 231-639-5
- Density:  $1,06 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 2140 mg/kg
- EC-Index-No.: 016-020-00-8
- ADR: 8 C1 II UN 2796
- IMDG: 8 II UN 2796

- IATA/ICAO: 8 II UN 2796
- GHS-signal word: Danger
- GHS-H sentences: H290 - H314 -
- GHS-P sentences: P301 + P330 + P331 - P305 + P351 + P338
- Tariff number: 2807 00 00 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

amount of substance: 4,904 g  $H_2SO_4$   
concentrated solution . . . . . 0,5 mol/l  $\pm 0,1 \%$

ART. NO.	VOLUME	CONTAINER
AC207200PA	u.	

# Solvents for GC-Headspace

## ... volatile residues under control

DMSO, DMF, DMA, NMP and water

Control according ICH Q3C to ensure optimal results during the residual solvents analysis



## TAE 10X BUFFER pH = 8,3

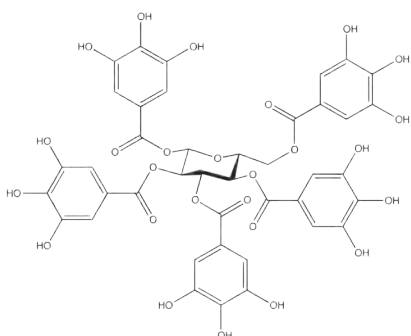
TA0010 TAE 10X buffer pH = 8,3, molecular biology grade

- Synonyms: TRIS-Acetate-EDTA
  - Density: 1,016 g/cm<sup>3</sup>
  - Tariff number: 3822 00 00 00
  - Applications: analytical chemistry, for electrophoresis, for determination of: nucleic acids.
- pH ..... 8,2 - 8,4  
composition: tris-(hydroxymethyl)-aminomethane 0,40 M / EDTA 0,01 M / acetic acid 0,20 M  
DNases, RNases, Proteases ..... non detected

ART. NO.	VOLUME	CONTAINER
TA00101000	1 l	
TA0010010C	10 l	

## TANNIC ACID

AC2090 Tannic acid, EssentQ®



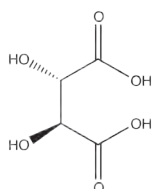
- Synonyms: Tannin
- C<sub>28</sub>H<sub>32</sub>O<sub>16</sub>
- M = 1701,22 g/mol
- CAS [1401-55-4]
- EINECS-No.: 215-753-2
- Solub. in water: (20 °C): 250 g/l
- Tariff number: 3201 90 90 80
- Applications: laboratory reagent, synthesis of organic products, chromatography (absorbent for: proteins).

arsenic (As) ..... max. 3 ppm  
heavy metals (as Pb) ..... max. 0,003 %  
residue on ignition ..... max. 0,1 %  
loss on drying ..... max. 12 %

ART. NO.	VOLUME	CONTAINER
AC20900250	250 g	
AC20901000	1 kg	

## L(+)-TARTARIC ACID

AC3001 L(+)-Tartaric acid, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



- Synonyms: 2,3-Dihydroxybutanedioic acid
- C<sub>4</sub>H<sub>6</sub>O<sub>6</sub>
- M = 150,09 g/mol
- CAS [87-69-4]
- EINECS-No.: 201-766-0
- Solub. in water: (20 °C): soluble
- Melting point: 170 °C
- Ignition temp.: 425 °C
- GHS-signal word: Danger
- GHS-H sentences: H318 -
- GHS-P sentences: P280 - P305 + P351 + P338 - P310 -
- Tariff number: 2918 12 00 00
- Applications: in food industry, acidifying agent, photography, cosmetics, in porcelain industry, in the textile industry, in buffer solutions (for pharmaceutical use).

assay (acidimetric) ..... min. 99,5 %  
assay (acidimetric, on dried sample) ..... 99,5 - 101,0 %  
identification ..... passes test  
appearance of solution ..... passes test  
insoluble in water ..... max. 0,005 %  
Specific rotation ([α]<sub>D</sub><sup>20</sup>, c=20, H<sub>2</sub>O on dried sample) ..... + 12,0° - + 12,8°  
chlorides (Cl) ..... max. 5 ppm  
phosphates (as PO<sub>4</sub>) ..... max. 0,001 %  
sulfates (SO<sub>4</sub>) ..... max. 150 ppm  
calcium (Ca) ..... max. 0,002 %  
copper (Cu) ..... max. 5 ppm  
heavy metals (as Pb) ..... max. 5 ppm  
iron (Fe) ..... max. 5 ppm  
lead (Pb) ..... max. 5 ppm  
oxalic acid (C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>) ..... max. 360 ppm  
oxalates (C<sub>2</sub>O<sub>4</sub>) ..... passes test  
sulphur compounds (as SO<sub>4</sub>) ..... max. 0,002 %  
residue on ignition (EP) ..... max. 0,1 %  
residue on ignition (ISO) ..... max. 0,01 %  
residue on ignition (ACS) ..... max. 0,02 %  
loss on drying (105 °C) ..... max. 0,2 %


ART. NO.	VOLUME	CONTAINER
AC30010500	500 g	
AC30011000	1 kg	
AC3001005P	5 kg	
AC3001025P	25 kg	

## TBE 5X BUFFER pH = 8,3

TB0010 TBE 5X buffer pH = 8,3, molecular biology grade

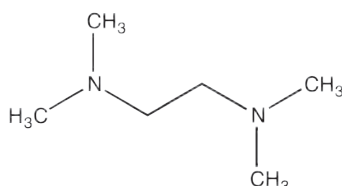
- Synonyms: TRIS-Borate-EDTA
- Density: 1,03 g/cm<sup>3</sup>
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, in buffer solutions, for electrophoresis, for determination of: nucleic acids.

pH ..... 8,2 - 8,4  
composition: tris-(hydroxymethyl)-aminomethane 0,45 M / EDTA 0,01 M / boric acid 0,45 M  
DNases, RNases ..... non detected

ART. NO.	VOLUME	CONTAINER
TB00101000	1 l	
TB0010010C	10 l	

## TEMED

TE0050 TEMED, ExpertQ®, for analysis



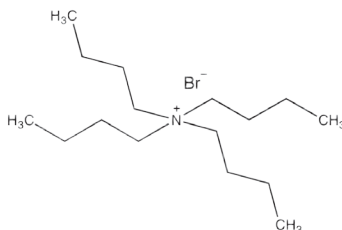
- Synonyms: N,N,N',N'-Tetramethylethylenediamine, 1,2-Bis(dimethylamino)ethane, TMEDA
- C<sub>8</sub>H<sub>16</sub>N<sub>2</sub>
- M<sub>r</sub> = 116,21 g/mol
- CAS [110-18-9]
- EINECS-No.: 203-744-6
- Density: 0,78 g/cm<sup>3</sup>
- Solub. in water: (20 °C): freely miscible
- Melting point: -55 °C
- Boiling point: 121 °C
- Flash pt. 17 °C
- Refraction index: (n 20 °C/D) 1,4179
- LD 50 (oral, rat): 268 mg/kg
- EC-Index-No.: 612-103-00-3
- ADR: 3 F1 II UN 2372
- IMDG: 3 II UN 2372
- IATA/ICAO: 3 II UN 2372
- GHS-signal word: Danger
- GHS-H sentences: H225 - H314 - H302 - H332
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2921 29 00 90
- Applications: analytical chemistry, synthesis of polymers.
- Appearance: Clear liquid

assay (G.C.) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
iron (Fe) ..... max. 0,1 ppm  
residue on ignition ..... max. 0,005 %  
water (K.F.) ..... max. 0,5 %

ART. NO.	VOLUME	CONTAINER
TE00500010	10 ml	
TE00500100	100 ml	

## TETRABUTYLAMMONIUM BROMIDE

BR0200 Tetrabutylammonium bromide, HPLC grade



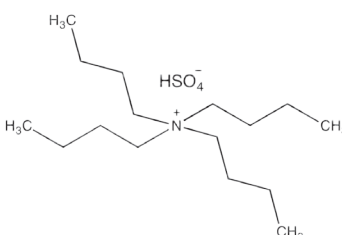
- Synonyms: TBAB, Tetra-n-butylammonium bromide
- C<sub>16</sub>H<sub>35</sub>BrN
- M<sub>r</sub> = 322,38 g/mol
- CAS [1643-19-2]
- EINECS-No.: 216-699-2
- Solub. in water: (20 °C): 600 g/l
- Melting point: 100 - 103 °C
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2923 90 00 90
- Applications: analytical chemistry, laboratory reagent, chromatography, synthesis of organic products, phase transfer catalyst.

assay (argentometric) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
insoluble matter ..... passes test  
absorbance of a 1% solution  
in water ..... passes test

ART. NO.	VOLUME	CONTAINER
BR02000025	25 g	



## TETRABUTYLAMMONIUM HYDROGEN SULFATE

TE0120 Tetrabutylammonium hydrogen sulfate, for ion-pair chromatography



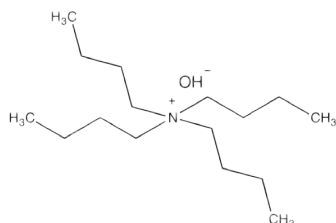
- C<sub>16</sub>H<sub>37</sub>NO<sub>4</sub>S
- M<sub>r</sub> = 339,54 g/mol
- CAS [32503-27-8]
- EINECS-No.: 251-068-5
- Solub. in water: (20 °C): freely soluble
- Melting point: 169 - 172 °C
- GHS-signal word: Warning
- GHS-H sentences: H302 - H319
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 2923 90 00 90
- Applications: analytical chemistry, chromatography, synthesis of organic products, phase transfer catalyst.

assay (acidimetric) ..... min. 99 %  
insoluble matter ..... passes test  
identity (IR-spectrum) ..... passes test  
max. absorbance of an aqueous sol. 0,005 M in a 1 cm cell at wavelength ..... absorbance  
200 nm ..... 0,155 AU  
220 nm ..... 0,046 AU  
250 nm ..... 0,009 AU

ART. NO.	VOLUME	CONTAINER
TE01200010	10 g	
TE01200100	100 g	

## TETRABUTYLAMMONIUM HYDROXIDE, SOLUTION 0,1 MOL/L, BUFFERED WITH PHOSPHATES

TE0115 Tetrabutylammonium hydroxide, solution 0,1 mol/l, buffered with phosphates, HPLC grade



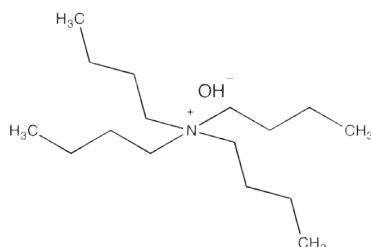
- $C_{16}H_{37}NO$
- $M = 259,48$  g/mol
- CAS [2052-49-5]
- EINECS-No.: 218-147-6
- Density: (25 °C) 1,005 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- GHS-signal word: Danger
- GHS-H sentences: H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2923 90 00 90
- Applications: analytical chemistry, chromatography.

pH (20 °C) ..... 7,4 - 7,6  
absorbance of a 0,005 M solution  
in a 1 cm cell at 254 nm. .... max. 0,02 AU

ART. NO.	VOLUME	CONTAINER
TE01150250	250 ml	0

## TETRABUTYLAMMONIUM HYDROXIDE, VOLUMETRIC SOLS. IN ALCOHOLIC MEDIUM

TE0116 Tetrabutylammonium hydroxide, solution 0,1 mol/l, in 2-propanol/methanol



- $C_{16}H_{37}NO$
- $M = 259,48$  g/mol
- CAS [2052-49-5]
- EINECS-No.: 218-147-6
- Density: 0,79 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Flash pt. 12 °C
- ADR: 3 FTC II UN 3286
- IMDG: 3 II UN 3286
- IATA/ICAO: 3 II UN 3286
- GHS-signal word: Danger
- GHS-H sentences: H225 - H314 - H371 - H336
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, titrant in volumetric analysis, for non-aqueous titrations.

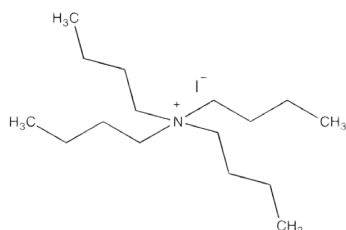
factor ..... 0,999 - 1,001  
uncertainty  $\pm$  0,001  
sulfates (SO<sub>4</sub>) ..... max. 0,05 %  
halides (as bromide) ..... max. 0,05 %  
2-propanol:methanol 10:1 (v/v)

This volumetric solution was checked by means of potentiometric methods using Scharlau's benzoic acid volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
TE01161000	1 l	0

## TETRABUTYLAMMONIUM IODIDE

YO0070 Tetrabutylammonium iodide, EssentQ®, Reag. Ph Eur

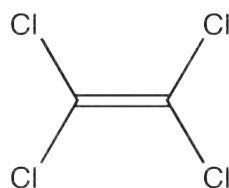


- $C_{16}H_{36}IN$
- $M = 369,38$  g/mol
- CAS [311-28-4]
- EINECS-No.: 206-220-5
- Solub. in water: (20 °C): slightly soluble
- Melting point: 143 - 146 °C
- LD 50 (oral, rat): 1990 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2923 90 00 90
- Applications: synthesis of organic products, laboratory reagent, phase transfer catalyst.

assay (argentometric) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
residue on ignition ..... max. 0,02 %

ART. NO.	VOLUME	CONTAINER
YO00701000	1 kg	0

## TETRACHLOROETHENE



- Synonyms: Perchloroethylene, Tetrachloroethylene, Ethylene tetrachloride
- $C_2Cl_4$
- $M = 165,82$  g/mol
- CAS [127-18-4]
- EINECS-No.: 204-825-9
- Density: 1,62 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 0,2 g/l
- Melting point: -22 °C
- Boiling point: 121 °C
- Vapour pressure: (20 °C) 18 hPa
- Refraction index: (n 20 °C/D) 1,5053
- Dielectric const.: (20 °C) 2,4

- LD 50 (oral, rat): 2629 mg/kg
- EC-Index-No.: 602-028-00-4
- ADR: 6.1 T1 III UN 1897
- IMDG: 6.1 III UN 1897
- IATA/ICAO: 6.1 III UN 1897
- GHS-signal word: Warning
- GHS-H sentences: H351 - H411
- GHS-P sentences: P281 - P273 - P308 + P313 - P391 - P405 - P501a
- Tariff number: 2903 23 00 00
- Applications: analytical chemistry, for spectroscopy, chromatography, laboratory reagent, solvents.

## TE0125 Tetrachloroethene, EssentQ®



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,621 - 1,623  
 acidity . . . . . max. 0,002 meq/g  
 alkalinity . . . . . max. 0,002 meq/g  
 chlorides (Cl) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 0,2 ppm

iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm  
 nickel (Ni) . . . . . max. 0,2 ppm  
 chloroform (G.C.) . . . . . max. 0,05 %  
 trichloroethylene (G.C.) . . . . . max. 0,1 %  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
TE01251000	1 l	0
TE01252500	2,5 l	0
TE0125005P	5 l	0
TE0125025A	25 l	0

## TE0127 Tetrachloroethene, Multisolvant® HPLC grade UV-VIS

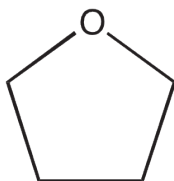


assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,621 - 1,623  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0005 meq/g  
 aluminium (Al) . . . . . max. 0,1 ppm  
 barium (Ba) . . . . . max. 0,01 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,3 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,02 ppm  
 lead (Pb) . . . . . max. 0,1 ppm

magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,01 ppm  
 residue on evaporation . . . . . max. 0,0003 %  
 water (K.F.) . . . . . max. 0,01 %  
 min. transmission/max. absorbance in a 1,0 cm cell at  
 wavelength T(%) A (AU)  
 290 nm . . . . . 10 % 1,000 AU  
 295 nm . . . . . 50 % 0,301 AU  
 300 nm . . . . . 80 % 0,097 AU  
 305 nm . . . . . 85 % 0,071 AU  
 350 nm . . . . . 89 % 0,051 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
TE01271000	1 l	0
TE01272500	2,5 l	0

## TETRAHYDROFURAN



- Synonyms: THF, Tetramethylene oxide, Oxolane
- C<sub>4</sub>H<sub>8</sub>O
- M = 72,11 g/mol
- CAS [109-99-9]
- EINECS-No.: 203-726-8
- Density: 0,89 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -108,5 °C
- Boiling point: 65 - 66 °C
- Flash pt. -21,5 °C
- Ignition temp.: 215 °C
- Vapour pressure: (20°C) 173 hPa
- Refraction index: (n 20 °C/D) 1,407
- Dielectric const.: (20 °C) 7,4

- LD 50 (oral, rat): 1650 mg/kg
- EC-Index-No.: 603-025-00-0
- ADR: 3 F1 II UN 2056
- IMDG: 3 II UN 2056
- IATA/ICAO: 3 II UN 2056
- GHS-signal word: Danger
- GHS-H sentences: H225 - H351 - H319 - H335 - EUH019
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2932 11 00 00
- Applications: solvents, synthesis of polymers, synthesis of organic products, for organometallic compounds synthesizing, for histology.

## TE0219 Tetrahydrofuran, EssentQ®, stabilized with 2,6-Di-tert-butyl-4-methylphenol (BHT)



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,887 - 0,889  
 residue on evaporation . . . . . max. 0,02 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
TE02191000	1 l	0
TE02192500	2,5 l	0
TE0219005L	5 l	0

ART. NO.	VOLUME	CONTAINER
TE0219005P	5 l	0
TE0219025L	25 l	0
TE0219025S	25 l	0

## TE0220 Tetrahydrofuran, EssentQ®, stabilized with 250 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



assay (G.C.) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,887 - 0,889  
 acidity . . . . . max. 0,0003 meq/g  
 copper (Cu) . . . . . max. 0,2 ppm  
 iron (Fe) . . . . . max. 0,5 ppm  
 lead (Pb) . . . . . max. 0,2 ppm

nickel (Ni) . . . . . max. 0,2 ppm  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
 residue on evaporation . . . . . max. 0,025 %  
 water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
TE02201000	1 l	0
TE02202500	2,5 l	0
TE0220005L	5 l	0
TE0220025S	25 l	0

## TE0221 Tetrahydrofuran, ExpertQ®, for analysis, ACS, Reag. Ph Eur, stabilized with 250 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,887 - 0,889  
 density (20°/20°) . . . . . 0,889 - 0,891  
 colour (Hazen) . . . . . max. 10  
 appearance . . . . . clear  
 acidity . . . . . max. 0,0003 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,5 ppm

chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,02 ppm  
 manganese (Mn) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
 residue on evaporation . . . . . max. 0,025 %  
 water (K.F.) . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
TE02211000	1 l	0
TE02212500	2,5 l	0
TE0221005M	5 l	0
TE0221025S	25 l	0
TE0221200L	200 l	0

TE0223 Tetrahydrofuran, dried (max. 0,005% H<sub>2</sub>O), ExpertQ®, for analysis, stabilized with 250 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)

assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,887 - 0,889  
appearance . . . . . clear  
acidity . . . . . max. 0,0003 meq/g  
colour (Hazen) . . . . . max. 10  
alkalinity . . . . . max. 0,0002 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,02 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
residue on evaporation . . . . . max. 0,025 %  
water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
TE02231000	1 l	0
TE02232500	2,5 l	0

TE0228 Tetrahydrofuran, Multisolvant® GPC grade, ACS, stabilized with 250 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)

assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,887 - 0,889  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0003 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
aluminium (Al) . . . . . max. 0,1 ppm  
barium (Ba) . . . . . max. 0,01 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,01 ppm  
calcium (Ca) . . . . . max. 0,3 ppm  
chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,02 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,01 ppm  
manganese (Mn) . . . . . max. 0,01 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,01 ppm  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
residue on evaporation . . . . . max. 0,025 %  
water (K.F.) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
TE02281000	1 l	0
TE02282500	2,5 l	0
TE02284000	4 l	0
TE0228007E	7 l	0
TE0228025S	25 l	0
TE0228030S	30 l	0

TE0225 Tetrahydrofuran, HPLC grade, without stabilizer

assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,887 - 0,889  
appearance . . . . . clear  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,02 %  
residue on evaporation . . . . . max. 0,0001 %  
water (K.F.) . . . . . max. 0,02 %

min. transmission/max. absorbance in a 1,0 cm cell  
at wavelength T(%) A (AU)  
230 nm . . . . . 35 % 0,456 AU  
243 nm . . . . . 50 % 0,301 AU  
273 nm . . . . . 90 % 0,046 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
TE02251000	1 l	0
TE02252500	2,5 l	0
TE02254000	4 l	0
TE0225007E	7 l	0
TE0225020S	20 l	0

TE0234 Tetrahydrofuran, standard substance for GC

assay . . . . . 99,9%  
over ramp . . . . . 40°C, 5°C/min 120°C, 30°C/min 200 °C  
identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
TE02340005	5 ml	0

TE0222 Tetrahydrofuran, 99,8%, anhydrous (max. 0,005% H<sub>2</sub>O), stabilized with 250 ppm of 2,6-Di-tert-butyl-4-methylphenol (BHT)

assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/20°) . . . . . 0,889 - 0,891  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0003 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm

cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,02 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
residue on evaporation . . . . . max. 0,025 %  
water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
TE02220100	100 ml	0
TE02220500	500 ml	0
TE02221000	1 l	0

TE0229 Tetrahydrofuran, 99,5%, anhydrous (max. 0,005% H<sub>2</sub>O), with molecular sieves, stabilized with 2,6-Di-tert-butyl-4-methylphenol (BHT)

assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,887 - 0,889  
acidity . . . . . max. 0,0003 meq/g  
copper (Cu) . . . . . max. 0,2 ppm

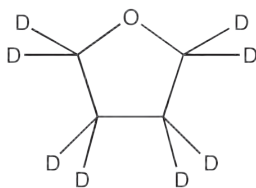
iron (Fe) . . . . . max. 0,5 ppm  
lead (Pb) . . . . . max. 0,2 ppm  
nickel (Ni) . . . . . max. 0,2 ppm  
peroxides (as H<sub>2</sub>O<sub>2</sub>) . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
TE02291000	1 l	0



## TETRAHYDROFURAN-D8

TE0230 Tetrahydrofuran-d8, deuteration degree min. 99,5%, NMR spectroscopy grade, Spectrosol®

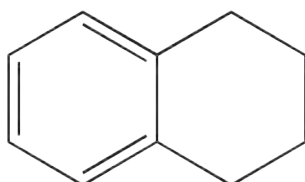


- Synonyms: Octadeuterotetrahydrofurane
- $C_4D_8O$
- $M = 80,16$  g/mol
- CAS [1693-74-9]
- EINECS-No.: 216-898-4
- Density:  $0,99$  g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -108 °C
- Boiling point: 64 °C
- Flash pt. -18 °C
- LD 50 (oral, rat): 1650 mg/kg
- ADR: 3 F1 II UN 2056
- IMDG: 3 II UN 2056
- IATA/ICAO: 3 II UN 2056
- GHS-signal word: Danger
- GHS-H sentences: H225 - H319 - H335 - EUH019
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2845 90 10 00
- Applications: for nuclear magnetic resonance spectroscopy.

deuteration degree ..... min. 99,5 %  
 water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) ..... max. 0,05 %  
 performance test (NMR-spectrum) ..... passes test

ART. NO.	VOLUME	CONTAINER
TE0230.750	8x0,75 ml	⊔

## 1,2,3,4-TETRAHYDRONAPHTHALENE



- Synonyms: Tetralin
- $C_{10}H_{12}$
- $M = 132,21$  g/mol
- CAS [119-64-2]
- EINECS-No.: 204-340-2
- Density:  $0,97$  g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: -36 °C
- Boiling point: 207 °C
- Flash pt. 77 °C
- Ignition temp.: 425 °C
- Vapour pressure: (20 °C) 0,4 hPa
- Refraction index: (n 20 °C/D) 1,5414

- Dielectric const.: (20 °C) 2,6
- LD 50 (oral, rat): 2860 mg/kg
- EC-Index-No.: 601-045-00-4
- ADR: 9 M6 III UN 3082
- IMDG: 9 III UN 3082
- IATA/ICAO: 9 III UN 3082
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H411 - EUH019
- GHS-P sentences: P280 - P273 - P305 + P351 + P338 - P321 - P362 - P501a
- Tariff number: 2902 90 90 00
- Applications: solvents, degreasing agent.

TE0240 1,2,3,4-Tetrahydronaphthalene, EssentQ®



assay (G.C.) ..... min. 98 %  
 identity (IR-spectrum) ..... passes test  
 heavy metals (as Pb) ..... max. 5 ppm

iron (Fe) ..... max. 5 ppm  
 residue on ignition ..... max. 0,005 %  
 water (K.F.) ..... max. 0,05 %

ART. NO.	VOLUME	CONTAINER
TE02401000	1 l	⊔

TE0241 1,2,3,4-Tetrahydronaphthalene, standard substance for GC

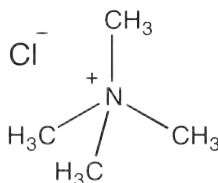


assay ..... 98,2 %  
 over ramp ..... 80°C, 7°C/min 220°C  
 identity ..... IR

ART. NO.	VOLUME	CONTAINER
TE02410005	5 ml	⊔

## TETRAMETHYLAMMONIUM CHLORIDE

CL0355 Tetramethylammonium chloride, EssentQ®



- $C_4H_{12}ClN$
- $M = 109,60$  g/mol
- CAS [75-57-0]
- EINECS-No.: 200-880-8
- Solub. in water: (20 °C): freely soluble
- Melting point: > 300 °C
- LD 50 (oral, rat): 80 mg/kg
- ADR: 6.1 T2 III UN 2811
- IMDG: 6.1 III UN 2811
- IATA/ICAO: 6.1 III UN 2811
- GHS-signal word: Danger
- GHS-H sentences: H301 - H312 - H315
- GHS-P sentences: P280 - P321 - P322 - P362 - P405 - P501a
- Tariff number: 2923 90 00 90
- Applications: synthesis of organic products, laboratory reagent, catalyst.
- Appearance: White-ivory crystalline powder

assay (argentometric) ..... min. 98 %  
 identity (IR-spectrum) ..... passes test

ART. NO.	VOLUME	CONTAINER
CL03550025	25 g	⊔

## TETRASODIUM DIPHOSPHATE DECAHYDRATE

SO0583 Tetrasodium diphosphate decahydrate, EssentQ®, Reag. Ph Eur

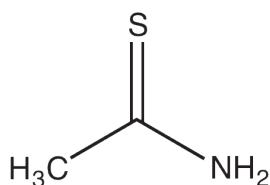
- Synonyms: Tetrasodium pyrophosphate, TSPP
- Na<sub>2</sub>P<sub>2</sub>O<sub>7</sub>·10H<sub>2</sub>O
- M = 446,06 g/mol
- CAS [13472-36-1]
- EINECS-No.: 231-767-1
- Solub. in water: (20 °C): ~ 60 g/l
- Melting point: ~ 79,5 °C
- Boiling point: 93,8 °C
- LD 50 (oral, rat): 4000 mg/kg (anhydrous substance)
- Tariff number: 2835 39 00 00
- Applications: analytical chemistry, laboratory reagent, in food industry (E 450), emulsifier, stabilizer, humectant.

assay (acidimetric) ..... min. 99 %  
 insoluble in water ..... max. 0,025 %  
 pH (5 %, H<sub>2</sub>O) ..... 9,5 - 10,8  
 chlorides (Cl) ..... max. 0,01 %  
 nitrates (NO<sub>3</sub>) ..... max. 0,01 %  
 ortho-phosphates (PO<sub>4</sub>) ..... max. 0,05 %  
 sulfates (SO<sub>4</sub>) ..... max. 0,05 %  
 arsenic (As) ..... max. 3 ppm  
 calcium (Ca) ..... max. 0,05 %  
 copper (Cu) ..... max. 0,003 %  
 iron (Fe) ..... max. 0,003 %  
 lead (Pb) ..... max. 0,003 %  
 magnesium (Mg) ..... max. 0,05 %  
 nickel (Ni) ..... max. 0,003 %

Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
SO05830500	500 g	
SO05831000	1 kg	
SO0583005P	5 kg	

## THIOACETAMIDE



- Synonyms: Ethanethioamide
- C<sub>2</sub>H<sub>5</sub>NS
- M = 75,13 g/mol
- CAS [62-55-5]
- EINECS-No.: 200-541-4
- Solub. in water: (25 °C): 163 g/l
- Melting point: 113 - 114 °C
- LD 50 (oral, rat): 301 mg/kg
- EC-Index-No.: 616-026-00-6

- GHS-signal word: Danger
- GHS-H sentences: H350 - H302 - H315 - H319 - H412
- GHS-P sentences: P280 - P281 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2930 90 99 99
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products, precipitant for: heavy metals.

T10139 Thioacetamide, EssentQ®



assay (argentometric) ..... min. 98 %  
 identity (IR-spectrum) ..... passes test  
 residue on ignition ..... max. 0,5 %

ART. NO.	VOLUME	CONTAINER
T101390250	250 g	

T10140 Thioacetamide, ExpertQ®, for analysis, ACS



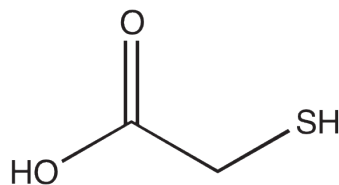
assay (argentometric) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 melting point ..... 111 - 114 °C  
 appearance of solution ..... passes test

heavy metals (as Pb) ..... max. 0,001 %  
 residue on ignition ..... max. 0,05 %  
 iron (Fe) ..... max. 5 ppm

ART. NO.	VOLUME	CONTAINER
T101400050	50 g	

## THIOGLYCOLIC ACID, 80%

AC3080 Thioglycolic acid, solution 80% w/w, EssentQ®



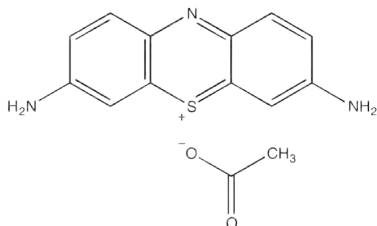
- Synonyms: Mercaptoacetic acid
- C<sub>2</sub>H<sub>3</sub>O<sub>2</sub>S
- M = 92,12 g/mol
- CAS [68-11-1]
- EINECS-No.: 200-677-4
- Density: 1,27 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -15 - -10 °C
- Flash pt. 126 °C (anhydrous substance)
- Vapour pressure: (20 °C) 0,1 hPa (anhydrous substance)
- Refraction index: (n 20 °C/D) 1,5030
- LD 50 (oral, rat): 73 mg/kg (anhydrous substance)
- EC-Index-No.: 607-090-00-6
- ADR: 8 C3 II UN 1940
- IMDG: 8 II UN 1940
- IATA/ICAO: 8 II UN 1940
- GHS-signal word: Danger
- GHS-H sentences: H301 - H311 - H331 - H314
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P361 - P405 - P501a
- Tariff number: 2930 90 99 99
- Applications: analytical chemistry, laboratory reagent, reagent for metals detection (iron, tin, silver, molybdenum), for spectrophotometric determinations (for determination of: palladium).

assay (iodometric) ..... 79 - 82 %  
 density (20°/4°) ..... 1,26 - 1,28  
 copper (Cu) ..... max. 5 ppm  
 heavy metals (as Pb) ..... max. 0,001 %  
 iron (Fe) ..... max. 5 ppm  
 lead (Pb) ..... max. 5 ppm  
 nickel (Ni) ..... max. 5 ppm  
 sensitivity to iron ..... passes test  
 residue on ignition ..... max. 0,03 %  
 water (K.F.) ..... 18 - 21 %

ART. NO.	VOLUME	CONTAINER
AC30800500	500 ml	
AC30801000	1 l	

## THIONINE, C.I. 52000

T10250 Thionine, C.I. 52000, for microscopy

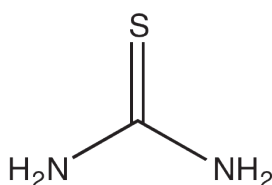


- Synonyms: Thionine (acetate), Lauth's violet
- $C_{14}H_{13}N_3O_2S$
- $M = 287,34 \text{ g/mol}$
- CAS [78338-22-4]
- Solub. in water: (25 °C): ~ 2,5 g/l
- Tariff number: 3204 19 00 90
- Applications: microscopy, indicator.

assay (spectrophotometric) . . . . . min. 85 %  
Absorption maximum  $\lambda$  (in  $H_2O$ ) . . . . . 598 - 600 nm  
Absorptivity ( $A1\%/1 \text{ cm}; 0,0005 \%$   
 $\lambda$  max,  $H_2O$ ) . . . . . 1740 - 2070  
related substances (TLC) . . . . . passes test  
loss on drying (110 °C) . . . . . max. 7 %  
suitability for microscopy . . . . . passes test

ART. NO.	VOLUME	CONTAINER
T102500025	25 g	0

## THIOUREA



- Synonyms: Thiocarbamide
- $CH_4N_2S$
- $M = 76,11 \text{ g/mol}$
- CAS [62-56-6]
- EINECS-No.: 200-543-5
- Solub. in water: (20 °C): 137 g/l
- Melting point: 171 - 184 °C
- Ignition temp.: 440 °C
- LD 50 (oral, rat): 1750 mg/kg
- EC-Index-No.: 612-082-00-0
- ADR: 9 M7 III UN 3077

- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning
- GHS-H sentences: H351 - H361d - H302 - H411
- GHS-P sentences: P281 - P273 - P264 - P308 + P313 - P405 - P501a
- Tariff number: 2930 90 99 99
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products, photography, manufacturing of synthetic resins, for the detection of: bismuth and selenium.

T10300 Thiourea, EssentQ®



assay (argentometric) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
sulfates ( $SO_4$ ) . . . . . max. 0,05 %  
copper (Cu) . . . . . max. 0,002 %

lead (Pb) . . . . . max. 0,002 %  
nickel (Ni) . . . . . max. 0,002 %  
iron (Fe) . . . . . max. 0,002 %  
residue on ignition . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
T103000500	500 g	0
T103001000	1 kg	0

T10303 Thiourea, ExpertQ®, for analysis, ACS



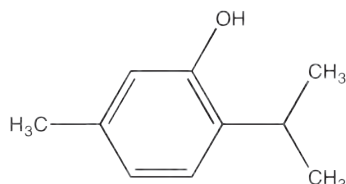
assay (argentometric, on dried base) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
solubility in water . . . . . passes test  
melting point . . . . . 174 - 177 °C

loss on drying (105 °C) . . . . . max. 0,5 %  
residue on ignition (800 °C) . . . . . max. 0,1 %  
sensitivity to bismuth . . . . . passes test

ART. NO.	VOLUME	CONTAINER
T103030500	500 g	0
T103031000	1 kg	0

## THYMOL

T10080 Thymol, extra pure, Pharmapur®, Ph Eur, BP, NF



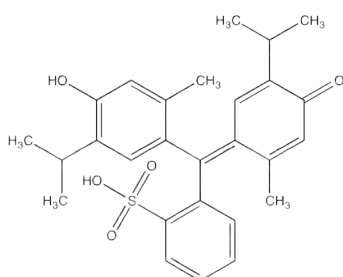
- Synonyms: 5-Methyl-2-(1-methylethyl)phenol, 5-Methyl-2-isopropyl-1-phenol
- $C_{10}H_{14}O$
- $M = 150,22 \text{ g/mol}$
- CAS [89-83-8]
- EINECS-No.: 201-944-8
- Solub. in water: (25 °C): 0,98 g/l
- Melting point: 49 - 51 °C
- Boiling point: 233 °C
- Flash pt. 100 °C
- Ignition temp.: 285 °C
- Vapour pressure: (50 °C) 2,5 hPa
- LD 50 (oral, rat): 980 mg/kg
- EC-Index-No.: 604-032-00-1
- ADR: 8 C4 III UN 2430
- IMDG: 8 III UN 2430
- IATA/ICAO: 8 III UN 2430
- GHS-signal word: Danger
- GHS-H sentences: H314 - H302 - H411
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2907 19 00 90
- Applications: for pharmaceutical use, antiseptic, disinfectant, cosmetics, manufacture of dyes, in pharma industry.

assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
melting range . . . . . 48 - 51 °C  
appearance of solution . . . . . passes test  
acidity . . . . . passes test  
related substances (G.C.) . . . . . max. 1 %  
residue on evaporation . . . . . max. 0,05 %  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
T100800100	100 g	0
T100800500	500 g	0
T10080005P	5 kg	0

## THYMOL BLUE

AZ0225 Thymol blue, indicator, ACS



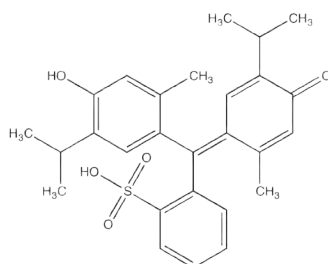
- Synonyms: Thymolsulfonphthalein, TB
- $C_{27}H_{30}O_5S$
- $M = 466,60$  g/mol
- CAS [76-61-9]
- EINECS-No.: 200-973-3
- Melting point: 221 °C
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, laboratory reagent, indicator.

pH range 1: pink  
to brownish yellow . . . . . 1,2 - 2,8  
pH range 2: greenish-yellow  
to blue . . . . . 8,0 - 9,2  
Absorption max  $\lambda_1$  (pH 1,2) . . . . . 543 - 547 nm  
Absorption max  $\lambda_2$  (pH 2,8) . . . . . 431 - 436 nm  
Absorption max  $\lambda_3$  (pH 7,8) . . . . . 431 - 436 nm  
Absorption max  $\lambda_4$  (pH 9,5) . . . . . 594 - 598 nm  
Absorptivity (A1%/1 cm;  $\lambda_1$ , pH 1,2  
on dried sample) . . . . . 400 - 500  
Absorptivity (A1%/1 cm;  $\lambda_2$ , pH 2,8  
on dried sample) . . . . . 200 - 300  
Absorptivity (A1%/1 cm;  $\lambda_3$ , pH 7,8  
on dried sample) . . . . . 200 - 300  
Absorptivity (A1%/1 cm;  $\lambda_4$ , pH 9,5  
on dried sample) . . . . . 450 - 550  
loss on drying (110 °C) . . . . . max. 3 %

ART. NO.	VOLUME	CONTAINER
AZ02250005	5 g	0
AZ02250025	25 g	0

## THYMOL BLUE, SOLUTION 0,04%

AZ0226 Thymol blue, solution 0,04%, indicator



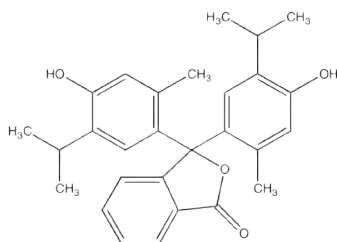
- Synonyms: Thymolsulfonphthalein, TB
- $C_{27}H_{30}O_5S$
- $M = 466,60$  g/mol
- CAS [76-61-9]
- EINECS-No.: 200-973-3
- Flash pt. 49
- ADR: 3 F1 III UN 1993
- IMDG: 3 III UN 1993
- IATA/ICAO: 3 III UN 1993
- GHS-signal word: Warning
- GHS-H sentences: H226
- GHS-P sentences: P210 - P241 - P280 - P240 - P303 + P361 + P353 - P501a
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, laboratory reagent, indicator.

pH range (red to yellow) . . . . . 1,2 - 2,8  
pH range (yellow to blue) . . . . . 8,0 - 9,6

ART. NO.	VOLUME	CONTAINER
AZ02260100	100 ml	0

## THYMOLPHTHALEIN

T10100 Thymolphthalein, indicator, ExpertQ®, for analysis, ACS



- $C_{28}H_{30}O_4$
- $M = 430,55$  g/mol
- CAS [125-20-2]
- EINECS-No.: 204-729-7
- Solub. in water: (20 °C): almost insoluble
- Melting point: 253 °C
- Tariff number: 2932 20 90 90
- Applications: analytical chemistry, laboratory reagent, indicator.

identity (UV-VIS spectroscopy) . . . . . passes test  
appearance of solution . . . . . passes test  
pH range (colourless to blue) . . . . . 8,8 - 10,5  
Absorption maximum  $\lambda$  (pH 10,5) . . . . . 592 - 596 nm  
Absorptivity (A1%/1 cm;  $\lambda_{max}$ , 0,01 g/l,  
pH 10,5, on dried sample) . . . . . 800 - 900  
loss on drying (110 °C) . . . . . max. 1,0 %

ART. NO.	VOLUME	CONTAINER
T101000005	5 g	0
T101000025	25 g	0

## TIN

ES0051 Tin, granulated (1 - 3 mm), EssentQ®, Reag. Ph Eur

- Sn
- $M = 118,69$  g/mol
- CAS [7440-31-5]
- EINECS-No.: 231-141-8
- Solub. in water: (20 °C): insoluble
- Melting point: 232 °C
- Boiling point: 2362 °C
- Tariff number: 8007 00 30 00
- Applications: analytical chemistry, laboratory reagent, reducing agent, in galvanotechnia (corrosion inhibitor), metal alloys, in the electronic industry, painting.

antimony (Sb) . . . . . max. 2 ppm  
arsenic (As) . . . . . max. 0,01 %  
bismuth (Bi) . . . . . max. 0,01 %  
copper (Cu) . . . . . max. 0,005 %  
iron (Fe) . . . . . max. 0,02 %  
lead (Pb) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ES00510100	100 g	0
ES00510250	250 g	0


A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## TIN(II) CHLORIDE DIHYDRATE

- Synonyms: Hydrochloric acid tin(II) salt dihydrate, Stannous chloride, Stannochlor
- $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$
- $M = 225,63 \text{ g/mol}$
- CAS [10025-69-1]
- EINECS-No.: 231-868-0

- Solub. in water: (20 °C): soluble
- Melting point: 37,7 °C
- LD 50 (oral, rat): 700 mg/kg (anhydrous substance)
- GHS-signal word: Warning
- GHS-H sentences: H302 - H315 - H319 - H317 - H335

- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2827 39 10 00
- Applications: analytical chemistry, laboratory reagent, for the detection of: arsenic, mercury, bismuth and gold.

ES0063 Tin(II) chloride dihydrate, extra pure, Pharmpur®, Ph Eur, BP 

assay (iodometric) . . . . . 98,0 - 102,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 500 ppm  
 iron (Fe) . . . . . max. 100 ppm  
 lead (Pb) . . . . . max. 50 ppm






non-precipitable by thioacetamide . . . . . max. 0,2 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
ES00630100	100 g	
ES00631000	1 kg	
ES0063005P	5 kg	

ES0064 Tin(II) chloride dihydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur 

assay (iodometric) . . . . . 98 - 103 %  
 identity . . . . . passes test  
 solubility in HCl . . . . . passes test  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,003 %  
 ammonium ( $\text{NH}_4$ ) . . . . . max. 0,002 %  
 arsenic (As) . . . . . max. 1 ppm  
 calcium (Ca) . . . . . max. 0,005 %  
 copper (Cu) . . . . . max. 0,001 %  
 heavy metals (as Pb) . . . . . max. 0,005 %

iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,005 %  
 magnesium (Mg) . . . . . max. 0,005 %  
 manganese (Mn) . . . . . max. 0,0005 %  
 nickel (Ni) . . . . . max. 0,0005 %  
 other metals (as Pb) . . . . . max. 0,01 %  
 potassium (K) . . . . . max. 0,005 %  
 sodium (Na) . . . . . max. 0,01 %  
 non precipitable with  $\text{H}_2\text{S}$  (as  $\text{SO}_4$ ) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ES00640100	100 g	
ES00640250	250 g	
ES00640500	500 g	
ES00641000	1 kg	
ES0064025P	25 kg	

## TIN(IV) CHLORIDE

ES0065 Tin(IV) chloride, EssentQ® 

- Synonyms: Tin tetrachloride
- $\text{SnCl}_4$
- $M = 260,50 \text{ g/mol}$
- CAS [7646-78-8]
- EINECS-No.: 231-588-9
- Density: 2,23 g/cm<sup>3</sup>
- Solub. in water: (20 °C): soluble (decomposes)
- Melting point: -33 °C
- Boiling point: 114,1 °C
- Vapour pressure: (20 °C) 24 hPa
- EC-Index-No.: 050-001-00-5
- ADR: 8 C1 II UN 1827
- IMDG: 8 II UN 1827

- IATA/ICAO: 8 II UN 1827
- GHS-signal word: Danger
- GHS-H sentences: H314 - H412
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2827 39 10 00
- Applications: laboratory reagent, synthesis of organic products (desiccant), mordant/corrosive, stabilizer (cosmetics), in the ceramics industry (in galvanotechnology).
- Appearance: Colourless liquid

assay (iodometric) . . . . . min. 99 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,01 %  
 arsenic (As) . . . . . max. 0,01 %  
 iron (Fe) . . . . . max. 0,001 %  
 non precipitable with  $\text{H}_2\text{S}$  (as  $\text{SO}_4$ ) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
ES00650250	250 ml	

## TIN(IV) OXIDE

ES0070 Tin(IV) oxide, EssentQ®

- Synonyms: Tin dioxide, Stannic (IV) oxide
- $\text{SnO}_2$
- $M = 150,70 \text{ g/mol}$
- CAS [18282-10-5]
- EINECS-No.: 242-159-0
- Solub. in water: (20 °C): insoluble
- Melting point: 1630 °C
- LD 50 (oral, rat): > 20000 mg/kg
- Tariff number: 2825 90 30 00

- Applications: laboratory reagent, mordant/corrosive (manufacture of dyes, painting), in the production of enamels, in the ceramics industry, polishing glass, metals and fingernails.

assay (gravimetric) . . . . . min. 99 %  
 soluble in acid . . . . . max. 0,2 %  
 chlorides (Cl) . . . . . max. 0,05 %  
 sulfates ( $\text{SO}_4$ ) . . . . . max. 0,05 %  
 residue on ignition (900 °C) . . . . . max. 0,2 %  
 iron (Fe) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
ES00701000	1 kg	

## TISAB III

TI0329 TISAB III, for fluorides determination



- Density: ~ 1,05 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- GHS-signal word: Warning
- GHS-H sentences: H319
- GHS-P sentences: P280 - P264 - P305 + P351 + P338 - P337 + P313
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for determination of: fluorides.

composition: 1,2- Diaminocyclohexane-N,N,N',N'-tetraacetic acid monohydrate ..... 18 g  
ammonium chloride ..... 96,65 g  
ammonium acetate ..... 163,4 g  
cresol red ..... 0,1 g  
water ..... 1 liter

ART. NO.	VOLUME	CONTAINER
TI03290500	500 ml	Ⓟ
TI03291000	1 l	Ⓟ

## TISAB IV

TI0330 TISAB IV, for fluorides determination, according to ASTM D1179



- Density: 1,20 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313

- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for determination of: fluorides.

For samples containing < 3 ppm of Fe and/or Al

ART. NO.	VOLUME	CONTAINER
TI03300500	500 ml	Ⓟ

## TITANIUM DIOXIDE

TI0367 Titanium dioxide, EssentQ®

- Synonyms: Titanium(IV) oxide
- TiO<sub>2</sub>
- M = 79,90 g/mol
- CAS [13463-67-7]
- EINECS-No.: 236-675-5
- Solub. in water: (20 °C): insoluble
- Melting point: 1855 °C
- Boiling point: 2900 °C

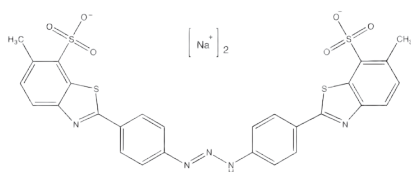
- LD 50 (oral, rat): > 10000 mg/kg
- Tariff number: 2823 00 00 90
- Applications: laboratory reagent, synthesis of organic products, pigment, in food industry (colouring agent), painting, in the ceramics industry, in the production of enamels.

assay ..... min. 99 %  
loss on ignition (1000°C, 2 h) ..... max. 0,5 %

ART. NO.	VOLUME	CONTAINER
TI03670100	100 ml	Ⓟ
TI03670500	500 g	Ⓟ
TI03671000	1 kg	Ⓟ

## TITAN YELLOW, C.I. 19540

AM0095 Titan yellow, C.I. 19540, reagent for magnesium and indicator

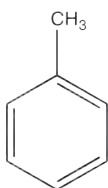


- Synonyms: Clayton yellow, Naphthamine G, Thiazole yellow
- C<sub>28</sub>H<sub>19</sub>N<sub>5</sub>Na<sub>2</sub>O<sub>6</sub>S<sub>2</sub>
- M = 695,73 g/mol
- CAS [1829-00-1]
- EINECS-No.: 217-377-4
- Solub. in water: (24 °C): ~ 29 g/l
- Tariff number: 3204 19 00 90
- Applications: analytical chemistry, indicator, laboratory reagent (magnesium).

Absorption maximum λ (pH 7,0) ..... 405 - 406 nm  
Absorptivity (A1%/1 cm; λ max, pH 7,0 on dried sample) ..... 550 - 560  
loss on drying (110 °C) ..... max. 8 %  
suitability as magnesium reagent ..... passes test

ART. NO.	VOLUME	CONTAINER
AM00950025	25 g	Ⓟ
AM00950100	100 g	Ⓟ

## TOLUENE



- Synonyms: Methylbenzene, Phenylmethane
- C<sub>7</sub>H<sub>8</sub>
- M = 92,14 g/mol
- CAS [108-88-3]
- EINECS-No.: 203-625-9
- Density: 0,87 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 0,52 g/l
- Melting point: -95 °C
- Boiling point: 111 °C
- Flash pt. 4 °C
- Ignition temp.: 535 °C
- Vapour pressure: (20 °C) 29 hPa
- Dielectric const.: (25 °C) 2,3

- LD 50 (oral, rat): 636 mg/kg
- EC-Index-No.: 601-021-00-3
- ADR: 3 F1 II UN 1294
- IMDG: 3 II UN 1294
- IATA/ICAO: 3 II UN 1294
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H361d - H373 - H315 - H336 - H412 -
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2902 30 00 00
- Applications: synthesis of organic products, solvents, as gasoline additive.



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## TO0072 Toluene, EssentQ®



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,864 - 0,868  
density (20°/20°) . . . . . 0,865 - 0,869  
residue on evaporation . . . . . max. 0,003 %  
water (K.F.) . . . . . max. 0,1 %

ART. NO.	VOLUME	CONTAINER
TO00721000	1 l	0
TO00722500	2,5 l	0
TO0072005P	5 l	0

ART. NO.	VOLUME	CONTAINER
TO0072025P	25 l	0
TO0072025S	25 l	0
TO0072200L	200 l	0

## TO0075 Toluene, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,864 - 0,868  
density (20°/20°) . . . . . 0,865 - 0,869  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
boiling point . . . . . 109 - 111°C  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
chlorides (Cl) . . . . . max. 0,00005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
aluminium (Al) . . . . . max. 0,5 ppm  
antimony (Sb) . . . . . max. 0,02 ppm  
arsenic (As) . . . . . max. 0,02 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
beryllium (Be) . . . . . max. 0,02 ppm  
bismuth (Bi) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
gallium (Ga) . . . . . max. 0,02 ppm

gold (Au) . . . . . max. 0,1 ppm  
indium (In) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
lithium (Li) . . . . . max. 0,02 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
molybdenum (Mo) . . . . . max. 0,05 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
platinum (Pt) . . . . . max. 0,02 ppm  
silver (Ag) . . . . . max. 0,02 ppm  
thallium (Tl) . . . . . max. 0,05 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
titanium (Ti) . . . . . max. 0,05 ppm  
vanadium (V) . . . . . max. 0,05 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
zirconium (Zr) . . . . . max. 0,02 ppm  
benzene (G.C.) . . . . . max. 0,05 %  
sulfur compounds (as S) . . . . . max. 0,003 %  
tiophene (C<sub>4</sub>H<sub>4</sub>S) . . . . . max. 0,0001 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,02 %

ART. NO.	VOLUME	CONTAINER
TO00751000	1 l	0
TO00752500	2,5 l	0
TO0075005L	5 l	0
TO0075007E	7 l	0
TO0075025A	25 l	0
TO0075025S	25 l	0
TO0075030S	30 l	0
TO0075200L	200 l	0

## TO0074 Toluene, dried (max. 0,0075% H<sub>2</sub>O), ExpertQ®, for analysis, ACS, ISO



assay (G.C.) . . . . . min. 99,9 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,864 - 0,868  
density (20°/20°) . . . . . 0,865 - 0,869  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
chlorides (Cl) . . . . . max. 0,00005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
aluminium (Al) . . . . . max. 0,5 ppm  
antimony (Sb) . . . . . max. 0,02 ppm  
arsenic (As) . . . . . max. 0,02 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
beryllium (Be) . . . . . max. 0,02 ppm  
bismuth (Bi) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
gallium (Ga) . . . . . max. 0,02 ppm

gold (Au) . . . . . max. 0,1 ppm  
indium (In) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
lithium (Li) . . . . . max. 0,02 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
molybdenum (Mo) . . . . . max. 0,05 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
platinum (Pt) . . . . . max. 0,02 ppm  
silver (Ag) . . . . . max. 0,02 ppm  
thallium (Tl) . . . . . max. 0,05 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
titanium (Ti) . . . . . max. 0,05 ppm  
vanadium (V) . . . . . max. 0,05 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
zirconium (Zr) . . . . . max. 0,02 ppm  
benzene (G.C.) . . . . . max. 0,05 %  
sulfur compounds (as S) . . . . . max. 0,003 %  
tiophene (C<sub>4</sub>H<sub>4</sub>S) . . . . . max. 0,0001 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,0075 %

ART. NO.	VOLUME	CONTAINER
TO00741000	1 l	0

**TO0085 Toluene, Multisolvant® HPLC grade ACS ISO UV-VIS**



assay (G.C.) . . . . . min. 99,9 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,864 - 0,868  
 density (20°/20°) . . . . . 0,865 - 0,869  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,0002 meq/g  
 alkalinity . . . . . max. 0,0002 meq/g  
 chlorides (Cl) . . . . . max. 0,00005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
 aluminium (Al) . . . . . max. 0,1 ppm  
 antimony (Sb) . . . . . max. 0,02 ppm  
 arsenic (As) . . . . . max. 0,02 ppm  
 barium (Ba) . . . . . max. 0,01 ppm  
 beryllium (Be) . . . . . max. 0,02 ppm  
 bismuth (Bi) . . . . . max. 0,1 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,3 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 gallium (Ga) . . . . . max. 0,02 ppm  
 gold (Au) . . . . . max. 0,1 ppm  
 indium (In) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,1 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 lithium (Li) . . . . . max. 0,02 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm

manganese (Mn) . . . . . max. 0,01 ppm  
 molybdenum (Mo) . . . . . max. 0,05 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 platinum (Pt) . . . . . max. 0,02 ppm  
 silver (Ag) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 titanium (Ti) . . . . . max. 0,05 ppm  
 vanadium (V) . . . . . max. 0,05 ppm  
 zinc (Zn) . . . . . max. 0,01 ppm  
 zirconium (Zr) . . . . . max. 0,02 ppm  
 benzene (G.C.) . . . . . max. 0,05 %  
 sulfur compounds (as S) . . . . . max. 0,003 %  
 thiophene (C<sub>4</sub>H<sub>4</sub>S) . . . . . max. 0,0001 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0002 %  
 water (K.F.) . . . . . max. 0,02 %  
 liquid chromatography suitability  
 absorbance . . . . . passes test  
 min. transmission/max. absorbance in a 1,0 cm cell  
 at wavelength T (%) A (AU)  
 285 nm . . . . . 10 % 1,000 AU  
 292 nm . . . . . 50 % 0,301 AU  
 305 nm . . . . . 80 % 0,097 AU  
 317 nm . . . . . 90 % 0,046 AU  
 350 nm . . . . . 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
TO00851000	1 l	0
TO00852500	2,5 l	0
TO00854000	4 l	0
TO0085007E	7 l	0
TO0085020S	20 l	0
TO0085025S	25 l	0

**TO0077 Toluene, HPLC grade**



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,864 - 0,868  
 acidity . . . . . max. 0,0005 meq/g  
 residue on evaporation . . . . . max. 0,0003 %  
 alkalinity . . . . . max. 0,0002 meq/g  
 water (K.F.) . . . . . max. 0,03 %

min. transmission/max. absorbance in a 1,0 cm cell  
 at wavelength T (%) A (AU)  
 287 nm . . . . . 20 % 0,699 AU  
 290 nm . . . . . 50 % 0,301 AU  
 310 nm . . . . . 90 % 0,046 AU  
 Microfiltered through membranes of pore diameter  
 0,22 µm

ART. NO.	VOLUME	CONTAINER
TO00771000	1 l	0
TO00772500	2,5 l	0

**TO0081 Toluene, for GC residue analysis**



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,864 - 0,868  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,02 %

Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 µg/ml as lindane. No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl.

ART. NO.	VOLUME	CONTAINER
TO00811000	1 l	0
TO00814000	4 l	0
TO00812500	2,5 l	0

**TO0082 Toluene, GC ultra-trace analysis grade**



assay (G.C.) . . . . . min. 99,8 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 0,864 - 0,868  
 residue on evaporation . . . . . max. 0,0001 %  
 water (K.F.) . . . . . max. 0,02 %  
 Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 2 µg/ml as lindane.

No peaks are obtained in vicinity of 2,4,5-trichlorobiphenyl. Suitable for highly volatile halogenated hydrocarbons trace analysis. ECD, from dichloromethane to 1,2,4-trichlorobenzene, no peaks are obtained greater than 1 ng/ml as tetrachloromethane. Suitable for pesticide and polycyclic aromatic hydrocarbons residue analysis. FID, from 1-octanol to 1-tetradecanol, no peaks are obtained greater than 2 ng/ml as 1-tetradecanol. No peaks are obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
TO00821000	1 l	0
TO00822500	2,5 l	0

**TO0068 Toluene, GC-MS**



assay (G.C.) . . . . . min. 99,8 %  
 colour (Hazen) . . . . . max. 10  
 identity (IR-spectrum) . . . . . passes test  
 residue on evaporation . . . . . max. 3 ppm  
 water (K.F.) . . . . . max. 0,05 %

GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n- tetradecane standard)) . . . . . max. 3,0 ng/ml (ppb)  
 Suitable for residue analysis

ART. NO.	VOLUME	CONTAINER
TO00681000	1 l	0
TO00682500	2,5 l	0

**TO0069 Toluene, standard substance for GC**



assay . . . . . 99,8%  
 over ramp . . . . . 60°C, 6°C/min 160°C, 20°C/min 220°C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
TO00690005	5 ml	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## TO0084 Toluene, 99,8%, anhydrous (max. 0,003% H<sub>2</sub>O)



assay (G.C.) . . . . . min. 99,8 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/20°) . . . . . 0,865 - 0,870  
appearance . . . . . clear  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
chlorides (Cl) . . . . . max. 0,00005 %  
sulfates (SO<sub>4</sub>) . . . . . max. 0,0001 %  
aluminium (Al) . . . . . max. 0,5 ppm  
antimony (Sb) . . . . . max. 0,02 ppm  
arsenic (As) . . . . . max. 0,02 ppm  
barium (Ba) . . . . . max. 0,1 ppm  
beryllium (Be) . . . . . max. 0,02 ppm  
bismuth (Bi) . . . . . max. 0,1 ppm  
boron (B) . . . . . max. 0,02 ppm  
cadmium (Cd) . . . . . max. 0,05 ppm  
calcium (Ca) . . . . . max. 0,5 ppm  
chromium (Cr) . . . . . max. 0,02 ppm  
cobalt (Co) . . . . . max. 0,02 ppm  
copper (Cu) . . . . . max. 0,02 ppm  
gallium (Ga) . . . . . max. 0,02 ppm

gold (Au) . . . . . max. 0,1 ppm  
indium (In) . . . . . max. 0,02 ppm  
iron (Fe) . . . . . max. 0,1 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
lithium (Li) . . . . . max. 0,02 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,02 ppm  
molybdenum (Mo) . . . . . max. 0,05 ppm  
nickel (Ni) . . . . . max. 0,02 ppm  
platinum (Pt) . . . . . max. 0,02 ppm  
silver (Ag) . . . . . max. 0,02 ppm  
thallium (Tl) . . . . . max. 0,05 ppm  
tin (Sn) . . . . . max. 0,1 ppm  
titanium (Ti) . . . . . max. 0,05 ppm  
vanadium (V) . . . . . max. 0,05 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
benzene (G.C.) . . . . . max. 0,05 %  
sulfur compounds (as S) . . . . . max. 0,003 %  
tiophene (C<sub>4</sub>H<sub>4</sub>S) . . . . . max. 0,0005 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
TO00840100	100 ml	
TO00840500	500 ml	
TO00841000	1 l	

## TO0087 Toluene, 99,5%, anhydrous (max. 0,005% H<sub>2</sub>O), with molecular sieves



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,864 - 0,868  
acidity . . . . . max. 0,0003 meq/g  
alkalinity . . . . . max. 0,00025 meq/g  
benzene (G.C.) . . . . . max. 0,1 %  
ethylbenzene (G.C.) . . . . . max. 0,1 %  
o-xylene (G.C.) . . . . . max. 0,05 %  
m-xylene (G.C.) . . . . . max. 0,1 %

p-xylene (G.C.) . . . . . max. 0,05 %  
copper (Cu) . . . . . max. 0,2 ppm  
iron (Fe) . . . . . max. 0,5 ppm  
lead (Pb) . . . . . max. 0,2 ppm  
nickel (Ni) . . . . . max. 0,2 ppm  
tiophene (C<sub>4</sub>H<sub>4</sub>S) . . . . . max. 0,0005 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
water (K.F.) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
TO00871000	1 l	

## TO0086 Toluene, for histology



assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,864 - 0,868  
colour (Hazen) . . . . . max. 10  
acidity . . . . . max. 0,0005 meq/g  
alkalinity . . . . . max. 0,0003 meq/g  
aluminium (Al) . . . . . max. 0,5 ppm  
barium (Ba) . . . . . max. 0,2 ppm  
boron (B) . . . . . max. 0,05 ppm  
cadmium (Cd) . . . . . max. 0,1 ppm  
calcium (Ca) . . . . . max. 1 ppm  
chromium (Cr) . . . . . max. 0,05 ppm  
cobalt (Co) . . . . . max. 0,5 ppm

copper (Cu) . . . . . max. 0,05 ppm  
iron (Fe) . . . . . max. 0,2 ppm  
lead (Pb) . . . . . max. 0,2 ppm  
magnesium (Mg) . . . . . max. 0,1 ppm  
manganese (Mn) . . . . . max. 0,05 ppm  
nickel (Ni) . . . . . max. 0,05 ppm  
tin (Sn) . . . . . max. 0,2 ppm  
zinc (Zn) . . . . . max. 0,2 ppm  
benzene (G.C.) . . . . . max. 0,1 %  
sulfur compounds (as S) . . . . . max. 0,003 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
residue on evaporation . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
TO0086005L	5 l	

## TO0083 Toluene, ASTM



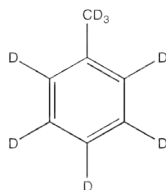
assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 0,864 - 0,868  
benzene (G.C.) . . . . . max. 0,005 %

xylene (G.C.) . . . . . max. 0,02 %  
non-aromatics . . . . . max. 0,1 %  
lead (Pb) . . . . . max. 0,002 g/gal  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test

ART. NO.	VOLUME	CONTAINER
TO0083025A	25 l	
TO0083200L	200 l	

**TOLUENE-D8**

TO0080 Toluene-d8, deuteration degree min. 99,5%, NMR spectroscopy grade, Spectrosol®

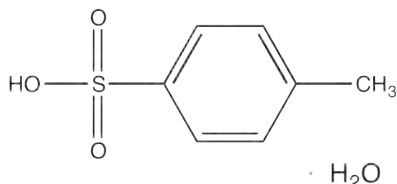


- Synonyms: Methylbenzene deuterated
- C<sub>7</sub>D<sub>8</sub>
- M = 100,19 g/mol
- CAS [2037-26-5]
- EINECS-No.: 218-009-5
- Density: 0,94 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: -85 °C
- Boiling point: 109 °C
- Flash pt. 4 °C
- Ignition temp.: 535 °C
- LD 50 (oral, rat): 636 mg/kg
- ADR: 3 F1 II UN 1294
- IMDG: 3 II UN 1294
- IATA/ICAO: 3 II UN 1294
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H361d - H373 - H315 - H336
- GHS-P sentences: P210 - P241 - P260 - P303 + P361 + P353 - P405 - P501a
- Tariff number: 2845 90 10 00
- Applications: for nuclear magnetic resonance spectroscopy.

deuteration degree . . . . . min. 99,5 %  
water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) . . . . . max. 0,02 %  
performance test (NMR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
TO00800010	10 ml	Ⓜ

**TOLUENE-4-SULFONIC ACID MONOHYDRATE**



- Synonyms: PTSA monohydrate, 4-Methylbenzene-sulfonic acid, PASAM, p-Toluenesulfonic acid
- C<sub>7</sub>H<sub>8</sub>O<sub>3</sub>S·H<sub>2</sub>O
- M = 190,22 g/mol
- CAS [6192-52-5]
- EINECS-No.: 203-180-0
- Solub. in water: (20 °C): ~ 750 g/l
- Melting point: 105 °C (anhydrous substance)
- Flash pt. 180 °C
- LD 50 (oral, rat): 2480 mg/kg (anhydrous substance)
- EC-Index-No.: 016-030-00-2

- ADR: 8 C4 III UN 2585
- IMDG: 8 III UN 2585
- IATA/ICAO: 8 III UN 2585
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2904 10 00 90
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products.

AC3120 Toluene-4-sulfonic acid monohydrate, EssentQ®



assay (acidimetric, on dried sample) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
residue on ignition . . . . . max. 0,2 %  
water (K.F.) . . . . . 9,5 - 12 %

ART. NO.	VOLUME	CONTAINER
AC31200250	250 g	Ⓜ
AC31201000	1 kg	Ⓜ

ART. NO.	VOLUME	CONTAINER
AC3120005P	5 kg	Ⓜ

AC3123 Toluene-4-sulfonic acid monohydrate, ExpertQ®, for analysis



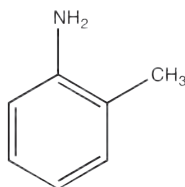
assay (acidimetric, on dried sample) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
TLC test . . . . . passes test  
sulfates (SO<sub>4</sub>) . . . . . max. 0,3 %

heavy metals (as Pb) . . . . . max. 0,001 %  
iron (Fe) . . . . . max. 0,01 %  
residue on ignition . . . . . max. 0,1 %  
water (K.F.) . . . . . 9,0 - 13,0 %

ART. NO.	VOLUME	CONTAINER
AC31230250	250 g	Ⓜ

**o-TOLUIDINE**

TO0120 o-Toluidine, EssentQ®



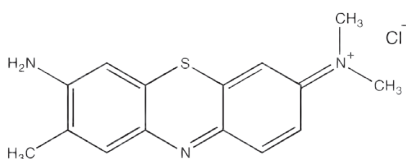
- Synonyms: 2-Aminotoluene, 2-Methylaniline
- C<sub>7</sub>H<sub>9</sub>N
- M = 107,16 g/mol
- CAS [95-53-4]
- EINECS-No.: 202-429-0
- Density: 0,99 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 15 g/l
- Melting point: < -15 °C
- Boiling point: 200 °C
- Flash pt. 85 °C
- Ignition temp.: 480 °C
- Vapour pressure: (20 °C) 0,18 hPa
- LD 50 (oral, rat): 670 mg/kg
- EC-Index-No.: 612-091-00-X
- ADR: 6.1 T1 II UN 1708
- IMDG: 6.1 II UN 1708
- IATA/ICAO: 6.1 II UN 1708
- GHS-signal word: Danger
- GHS-H sentences: H301 - H331 - H350 - H400 - H319
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2921 43 00 90
- Applications: laboratory reagent, synthesis of organic products, manufacture of dyes, in the textile industry.

assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20/4°) . . . . . 0,998 - 1,000  
residue on ignition . . . . . max. 0,01 %  
water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
TO01201000	1 l	Ⓜ

## TOLUIDINE BLUE, C.I. 52040

AZ0235 Toluidine blue, C.I. 52040, for microscopy



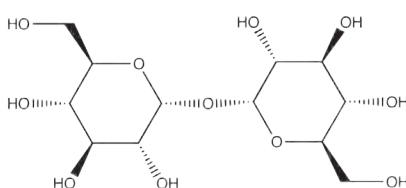
- Synonyms: Basic blue 17, Toluidine blue O
- $C_{15}H_{16}ClN_3S$
- $M = 305,83 \text{ g/mol}$
- CAS [92-31-9]
- EINECS-No.: 202-146-2
- Solub. in water: (25 °C): 30 g/l
- Tariff number: 3204 13 00 90
- Applications: indicator (microscopy), manufacture of dyes.

Absorption maximum  $\lambda$  (in  $H_2O$ ) . . . . . 628 - 633 nm  
Absorptivity ( $A1\%/1 \text{ cm}; \lambda \text{ max.}$ ) . . . . . min. 1050  
loss on drying (110 °C) . . . . . max. 8 %

ART. NO.	VOLUME	CONTAINER
AZ02350005	5 g	0
AZ02350025	25 g	0
AZ02351000	1 kg	0

## D-TREHALOSE

TR0030 D-Trehalose, for bacteriology



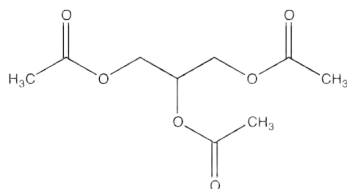
- Synonyms: Mycose,  $\alpha$ -D-Glucopyranosyl- $\alpha$ -D-glucopyranoside
- $C_{12}H_{22}O_{11}$
- $M = 342,30 \text{ g/mol}$
- CAS [99-20-7]
- EINECS-No.: 202-739-6
- Solub. in water: (20 °C): 100 g/l
- Melting point: 203 °C
- Tariff number: 2940 00 00 80
- Applications: in biochemistry, for microbiology.

glucose (C.C.F.) . . . . . max. 0,1 %  
identity (IR-spectrum) . . . . . passes test  
specific rotation ( $[\alpha]_{20}^{20} / D, c = 5, H_2O$ )  
referred to dried sample) . . . . . +197° - + 200°  
heavy metals (as Pb) . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
TR00300005	5 g	0

## TRIACETIN

TR0080 Triacetin, 99%, EssentQ®

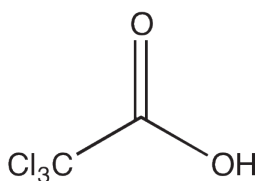


- Synonyms: Glycerol triacetate
- $C_9H_{14}O_6$
- $M = 218,23 \text{ g/mol}$
- CAS [102-76-1]
- EINECS-No.: 203-051-9
- Density: 1,16 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 64 g/l
- Melting point: 4 °C
- Boiling point: 258 °C
- Flash pt. 138 °C
- Ignition temp.: 433 °C
- Vapour pressure: (20 °C) < 0,1 hPa
- LD 50 (oral, rat): 3000 mg/kg
- Tariff number: 2915 39 30 00
- Applications: in biochemistry, solvents, perfumery, photography, cosmetics.

assay (acidimetric, on dried sample) . . . . . 97 - 100,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/20°) . . . . . 1,159 - 1,164  
refractive index  $n_{20}^D$  . . . . . 1,429 - 1,432  
appearance of solution . . . . . passes test  
acidity . . . . . passes test  
residue on ignition . . . . . max. 0,005 %  
water (K.F.) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
TR00801000	1 l	0

## TRICHLOROACETIC ACID



- Synonyms: TCA
- $CCl_3COOH$
- $M = 163,39 \text{ g/mol}$
- CAS [76-03-9]
- EINECS-No.: 200-927-2
- Solub. in water: (20 °C): soluble
- Melting point: 54 - 58 °C
- Boiling point: 197 °C
- Vapour pressure: (20 °C) 1 hPa
- LD 50 (oral, rat): 3320 mg/kg
- EC-Index-No.: 607-004-00-7

- ADR: 8 C4 II UN 1839
- IMDG: 8 II UN 1839
- IATA/ICAO: 8 II UN 1839
- GHS-signal word: Danger
- GHS-H sentences: H314 - H400 - H410
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2915 40 00 00
- Applications: analytical chemistry, laboratory reagent, herbicide, precipitant for: proteins, fixative in microscopy.

AC3130 Trichloroacetic acid, extra pure, Pharmpur®, Ph Eur, BP



assay (acidimetric) . . . . . 98,0 - 100,5 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 chlorides (Cl) . . . . . max. 100 ppm  
 residue on ignition . . . . . max. 0,1 %

Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.






ART. NO.	VOLUME	CONTAINER
AC31301000	1 kg	
AC3130005P	5 kg	

AC3132 Trichloroacetic acid, ExpertQ®, for analysis, ACS



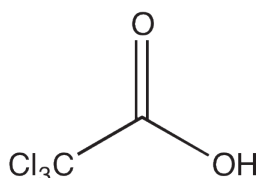
assay (acidimetric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . passes test  
 insoluble in water . . . . . max. 0,01 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,002 %  
 phosphates (as PO<sub>4</sub>) . . . . . max. 5 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,02 %

copper (Cu) . . . . . max. 5 ppm  
 heavy metals (as Pb) . . . . . max. 0,002 %  
 iron (Fe) . . . . . max. 0,001 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on ignition . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
AC31320100	100 g	
AC31320250	250 g	
AC31321000	1 kg	
AC3132005P	5 kg	
AC3132025P	25 kg	

## TRICHLOROACETIC ACID, SOLUTION 20%

AC3134 Trichloroacetic acid, solution 20% w/v, EssentQ®



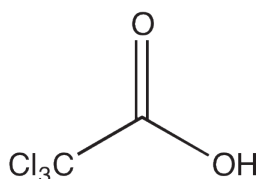
- Synonyms: TCA
- CCl<sub>3</sub>COOH
- M = 163,39 g/mol
- CAS [76-03-9]
- EINECS-No.: 200-927-2
- Density: 1,10 g/cm<sup>3</sup>
- EC-Index-No.: 607-004-00-7
- ADR: 8 C3 II UN 2564
- IMDG: 8 II UN 2564
- IATA/ICAO: 8 II UN 2564
- GHS-signal word: Danger
- GHS-H sentences: H314 - H335 - H411
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2915 40 00 00
- Applications: analytical chemistry, laboratory reagent, herbicide, precipitant for: proteins, fixative in microscopy.

assay (acidimetric) . . . . . approx. 20 %  
 chlorides (Cl) . . . . . max. 0,005 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,02 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,05 %  
 copper (Cu) . . . . . max. 0,003 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,003 %  
 nickel (Ni) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
AC31341000	1 l	

## TRICHLOROACETIC ACID, SOLUTION 3%

AC3133 Trichloroacetic acid, solution 3% w/v, EssentQ®

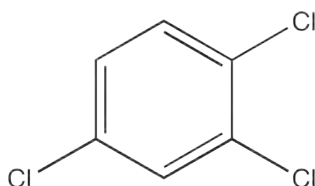


- Synonyms: TCA
- CCl<sub>3</sub>COOH
- M = 163,39 g/mol
- CAS [76-03-9]
- EINECS-No.: 200-927-2
- Density: 1,012 g/cm<sup>3</sup>
- EC-Index-No.: 607-004-00-7
- ADR: 8 C3 III UN 2564
- IMDG: 8 III UN 2564
- IATA/ICAO: 8 III UN 2564
- GHS-signal word: Warning
- GHS-H sentences: H315 - H319 - H335 - H411
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2915 40 00 00
- Applications: analytical chemistry, laboratory reagent, herbicide, precipitant for: proteins.

assay (acidimetric) . . . . . approx. 3 %  
 chlorides (Cl) . . . . . max. 0,003 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,02 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,05 %  
 copper (Cu) . . . . . max. 0,003 %  
 iron (Fe) . . . . . max. 0,002 %  
 lead (Pb) . . . . . max. 0,003 %  
 nickel (Ni) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
AC31331000	1 l	

## 1,2,4-TRICHLOROBENZENE



- C<sub>6</sub>H<sub>3</sub>Cl<sub>3</sub>
- M = 181,45 g/mol
- CAS [120-82-1]
- EINECS-No.: 204-428-0
- Density: 1,45 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 0,049 g/l
- Melting point: 17 °C
- Boiling point: 213,5 °C
- Flash pt. 99 °C
- Ignition temp.: 571 °C
- Vapour pressure: (20 °C) 1,3 hPa
- LD 50 (oral, rat): 756 mg/kg

- ADR: 6.1 T1 III UN 2321
- IMDG: 6.1 III UN 2321
- IATA/ICAO: 6.1 III UN 2321
- GHS-signal word: Warning
- GHS-H sentences: H400 - H410 - H302 - H315
- GHS-P sentences: P280 - P273 - P321 - P362 - P332 + P313 - P501a
- Tariff number: 2903 99 99 90
- Applications: analytical chemistry, chromatography, synthesis of organic products.
- Appearance: Colourless liquid



## TR0119 1,2,4-Trichlorobenzene, ExpertQ®, for analysis



assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/4°) . . . . . 1,453 - 1,455  
colour (Hazen) . . . . . max. 10

acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
residue on ignition . . . . . max. 0,0005 %  
water (K.F.) . . . . . max. 0,015 %

ART. NO.	VOLUME	CONTAINER
TR01191000	1 l	0

## TR0120 1,2,4-Trichlorobenzene, HPLC grade



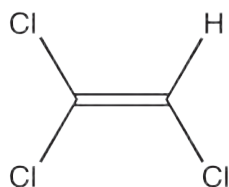
assay (G.C.) . . . . . min. 99 %  
identity (IR-spectrum) . . . . . passes test  
acidity . . . . . max. 0,0002 meq/g  
alkalinity . . . . . max. 0,0002 meq/g  
residue on ignition . . . . . max. 0,0003 %  
water (K.F.) . . . . . max. 0,01 %

min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A (AU)  
315 nm . . . . . .50 % 0,301 AU  
320 nm . . . . . .80 % 0,097 AU  
385 nm . . . . . .98 % 0,009 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
TR01202500	2,5 l	0

## TRICHLOROETHENE

### TR0150 Trichloroethene, EssentQ®, stabilized with ethanol

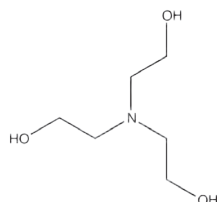


- Synonyms: Ethinyl trichloride, Trichloroethylene, Ethylene trichloride
- $C_2HCl_3$
- $M = 131,79 \text{ g/mol}$
- CAS [79-01-6]
- EINECS-No.: 201-167-4
- Density:  $1,46 \text{ g/cm}^3$
- Solub. in water: (20°C): almost non-miscible
- Melting point:  $-86^\circ\text{C}$
- Boiling point:  $87^\circ\text{C}$
- Ignition temp.:  $410^\circ\text{C}$
- Vapour pressure: (20°C) 77 hPa
- Dielectric const.: (16°C) 3,4
- LD 50 (oral, rat): 4920 mg/kg
- EC-Index-No.: 602-027-00-9
- ADR: 6.1 T1 III UN 1710
- IMDG: 6.1 III UN 1710
- IATA/ICAO: 6.1 III UN 1710
- GHS-signal word: Danger
- GHS-H sentences: H350 - H341 - H315 - H319 - H336 - H412
- GHS-P sentences: P261 - P280 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2903 22 00 00
- Applications: analytical chemistry, solvents, chromatography, synthesis of organic products, in the textile industry.

assay (G.C.) . . . . . min. 99,5 %  
identity (IR-spectrum) . . . . . passes test  
density (20°/20°) . . . . . 1,458 - 1,468  
free alkali (as  $NH_3$ ) . . . . . max. 0,001 %  
ethanol (G.C.) . . . . . max. 0,5 %  
chlorides (Cl) . . . . . max. 0,0001 %  
residue on evaporation . . . . . max. 0,001 %  
water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
TR0150025A	25 l	1

## TRIETHANOLAMINE



- Synonyms: Tris (2-hydroxyethyl)amine, 2,2',2''-Trihydroxytriethylamine, TEA
- $C_6H_{15}NO_3$
- $M = 149,19 \text{ g/mol}$
- CAS [102-71-6]
- EINECS-No.: 203-049-8
- Density:  $1,12 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $21,2^\circ\text{C}$
- Boiling point: (hPa)  $208^\circ\text{C}$
- Flash pt.  $180^\circ\text{C}$

- Ignition temp.:  $325^\circ\text{C}$
- Vapour pressure: (21 °C) 0,0003 hPa
- LD 50 (oral, rat):  $> 5000 \text{ mg/kg}$
- Tariff number: 2922 13 10 00
- Applications: corrosion inhibitor, cosmetics, emulsifier, in the textile industry, herbicide, manufacturing of synthetic resins, in building materials, manufacture of dyes, in lubricant compositions, in the pharmaceuticals industry, in pharma industry.

### TR0200 Triethanolamine, EssentQ®

assay (acidimetric) . . . . . min. 98 %  
identity (IR-spectrum) . . . . . passes test  
density (25°/25°) . . . . . 1,120 - 1,128  
mono + diethanolamine (G.C.) . . . . . max. 2 %

residue on ignition . . . . . max. 0,1 %  
water (K.F.) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
TR02001000	1 l	0
TR02002500	2,5 l	0

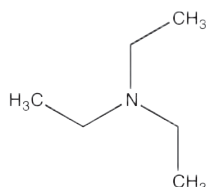
TR0202 Triethanolamine, extra pure, Pharmpur®, Ph Eur, NF

assay (acidimetric, on dried sample) . . . . .99,0 -103,0 %  
 identification . . . . .passes test  
 density (25°/25°) . . . . .1,120 - 1,128  
 n 20°/D . . . . .1,481 - 1,486  
 appearance of solution . . . . .passes test  
 related substances . . . . .passes test  
 impurity C . . . . .max. 24 ppb

residue on ignition . . . . .max. 0,05 %  
 water (K.F.) . . . . .max. 0,5 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
TR02021000	1 l	0
TR0202025P	25 l	0

**TRIETHYLAMINE**



- Synonyms: N,N-Diethylethanamine
- C<sub>6</sub>H<sub>15</sub>N
- M = 101,19 g/mol
- CAS [121-44-8]
- EINECS-No.: 204-469-4
- Density: 0,73 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 133 g/l
- Melting point: -115 °C
- Boiling point: 90 °C
- Flash pt. -11 °C
- Ignition temp.: 215 °C
- Vapour pressure: (20 °C) 69 hPa
- LD 50 (oral, rat): 460 mg/kg

- EC-Index-No.: 612-004-00-5
- ADR: 3 FC II UN 1296
- IMDG: 3 II UN 1296
- IATA/ICAO: 3 II UN 1296
- GHS-signal word: Danger
- GHS-H sentences: H225 - H314 - H302 - H312 - H332
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 2921 19 99 90
- Applications: analytical chemistry, laboratory reagent, synthesis of organic products, in the preparation of quaternary ammonium compounds.

TR0215 Triethylamine, EssentQ®



assay (G.C.) . . . . .min. 99 %  
 identity (IR-spectrum) . . . . .passes test  
 density (20°/4°) . . . . .0,726 - 0,729  
 residue on evaporation . . . . .max. 0,01 %  
 water (K.F.) . . . . .max. 0,2 %

ART. NO.	VOLUME	CONTAINER
TR02151000	1 l	0
TR02152500	2,5 l	0

ART. NO.	VOLUME	CONTAINER
TR0215005P	5 l	0

TR0216 Triethylamine, ExpertQ®, for analysis, Reag. Ph Eur



assay (G.C.) . . . . .min. 99,5 %  
 identity (IR-spectrum) . . . . .passes test  
 refractive index n<sub>20</sub>/D . . . . .1,400 - 1,402  
 density (20°/20°) . . . . .0,727 - 0,729  
 chlorides (Cl) . . . . .max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . .max. 0,001 %  
 cadmium (Cd) . . . . .max. 0,05 ppm  
 calcium (Ca) . . . . .max. 0,5 ppm  
 chromium (Cr) . . . . .max. 0,02 ppm  
 cobalt (Co) . . . . .max. 0,02 ppm  
 copper (Cu) . . . . .max. 0,02 ppm

heavy metals (as Pb) . . . . .max. 1 ppm  
 iron (Fe) . . . . .max. 0,1 ppm  
 lead (Pb) . . . . .max. 0,1 ppm  
 magnesium (Mg) . . . . .max. 0,1 ppm  
 manganese (Mn) . . . . .max. 0,02 ppm  
 nickel (Ni) . . . . .max. 0,02 ppm  
 zinc (Zn) . . . . .max. 0,1 ppm  
 diethylamine (G.C.) . . . . .max. 0,05 %  
 ethanol (G.C.) . . . . .max. 0,05 %  
 residue on evaporation . . . . .max. 0,002 %  
 water (K.F.) . . . . .max. 0,1 %

ART. NO.	VOLUME	CONTAINER
TR02160250	250 ml	0
TR02161000	1 l	0
TR02162500	2,5 l	0
TR0216200L	200 l	0

TR0218 Triethylamine, HPLC grade



assay (G.C.) . . . . .min. 99,7 %  
 identity (IR-spectrum) . . . . .passes test  
 density (20°/4°) . . . . .0,726 - 0,729  
 chlorides (Cl) . . . . .max. 0,001 %  
 sulfates (SO<sub>4</sub>) . . . . .max. 0,001 %

heavy metals (as Pb) . . . . .max. 1 ppm  
 iron (Fe) . . . . .max. 1 ppm  
 UV absorbance at 285 nm. . . . .max. 0,01 AU  
 residue on evaporation . . . . .max. 0,001 %  
 water (K.F.) . . . . .max. 0,1 %

ART. NO.	VOLUME	CONTAINER
TR02181000	1 l	0
TR02182500	2,5 l	0

TR0217 Triethylamine, eluent additive for LC-MS



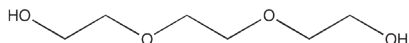
assay (G.C.) . . . . .min. 99,7 %  
 aluminium (Al) . . . . .max. 0,2 ppm  
 barium (Ba) . . . . .max. 0,1 ppm  
 cadmium (Cd) . . . . .max. 0,05 ppm  
 calcium (Ca) . . . . .max. 0,5 ppm  
 chromium (Cr) . . . . .max. 0,05 ppm  
 cobalt (Co) . . . . .max. 0,05 ppm  
 copper (Cu) . . . . .max. 0,05 ppm  
 iron (Fe) . . . . .max. 0,1 ppm  
 lead (Pb) . . . . .max. 0,1 ppm

lithium (Li) . . . . .max. 0,1 ppm  
 magnesium (Mg) . . . . .max. 0,1 ppm  
 molybdenum (Mo) . . . . .max. 0,05 ppm  
 manganese (Mn) . . . . .max. 0,05 ppm  
 nickel (Ni) . . . . .max. 0,05 ppm  
 potassium (K) . . . . .max. 0,5 ppm  
 sodium (Na) . . . . .max. 0,5 ppm  
 strontium (Sr) . . . . .max. 0,1 ppm  
 zinc (Zn) . . . . .max. 0,1 ppm  
 suitability for use in LC-MS . . . . .passes test

ART. NO.	VOLUME	CONTAINER
TR02170050	50 ml	0

## TRIETHYLENE GLYCOL

TR0240 Triethylene glycol, EssentQ®



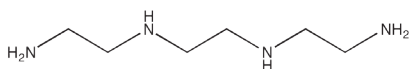
- Synonyms: Triglycol
- $C_6H_{14}O_4$
- $M = 150,18 \text{ g/mol}$
- CAS [112-27-6]
- EINECS-No.: 203-953-2
- Density:  $1,12 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $-7 \text{ °C}$
- Boiling point:  $286 - 288 \text{ °C}$
- Flash pt.  $165 \text{ °C}$
- Ignition temp.:  $370 \text{ °C}$
- Vapour pressure: (20 °C)  $0,01 \text{ hPa}$
- Refraction index: (n 20 °C/D)  $1,4559$
- Dielectric const.: (20 °C)  $24$
- LD 50 (oral, rat):  $17000 \text{ mg/kg}$
- Tariff number:  $2909 \ 49 \ 19 \ 90$
- Applications: synthesis of organic products, laboratory reagent, in the plastics industry, disinfectant (air).

assay (G.C.) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) .....  $1,123 - 1,124$   
 water (K.F.) ..... max.  $0,3 \%$

ART. NO.	VOLUME	CONTAINER
TR02401000	1 l	0

## TRIETHYLENETETRAMINE

TR0260 Triethylenetetramine, EssentQ®

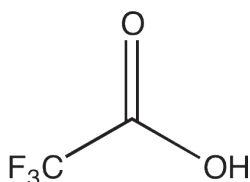


- Synonyms: N,N'-Bis(2-aminoethyl)-1,2-ethanediamine
- $C_6H_{16}N_4$
- $M = 146,24 \text{ g/mol}$
- CAS [112-24-3]
- EINECS-No.: 203-950-6
- Density:  $0,98 \text{ g/cm}^3$
- Solub. in water: (20 °C): miscible
- Melting point:  $12 \text{ °C}$
- Boiling point: (13 hPa)  $144 - 147 \text{ °C}$
- Flash pt.  $129 \text{ °C}$
- Ignition temp.:  $335 \text{ °C}$
- Vapour pressure: (20 °C)  $< 0,01 \text{ hPa}$
- Refraction index: (n 20 °C/D)  $1,4971$
- LD 50 (oral, rat):  $2500 \text{ mg/kg}$
- EC-Index-No.: 612-059-00-5
- ADR: 8 C7 II UN 2259
- IMDG: 8 II UN 2259
- IATA/ICAO: 8 II UN 2259
- GHS-signal word: Danger
- GHS-H sentences: H314 - H312 - H317 - H412
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number:  $2921 \ 29 \ 00 \ 90$
- Applications: synthesis of organic products, manufacturing of synthetic resins, in lubricant compositions, analytical chemistry, for the detection of: copper and nickel.

assay (G.C.) ..... min. 60 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) .....  $0,977 - 0,982$

ART. NO.	VOLUME	CONTAINER
TR02600250	250 ml	0

## TRIFLUOROACETIC ACID





- Synonyms: Perfluoroacetic acid, TFA
- $CF_3COOH$
- $M = 114,02 \text{ g/mol}$
- CAS [76-05-1]
- EINECS-No.: 200-929-3
- Density:  $1,48 \text{ g/cm}^3$
- Solub. in water: (20 °C): freely miscible
- Melting point:  $-15 \text{ °C}$
- Boiling point:  $72 \text{ °C}$
- Vapour pressure: (20 °C)  $11 \text{ hPa}$
- Dielectric const.: (25 °C)  $42,1$

- EC-Index-No.: 607-091-00-1
- ADR: 8 C3 I UN 2699
- IMDG: 8 I UN 2699
- IATA/ICAO: 8 I UN 2699
- GHS-signal word: Danger
- GHS-H sentences: H314 - H332 - H412
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number:  $2915 \ 90 \ 70 \ 90$
- Applications: analytical chemistry, for nuclear magnetic resonance spectroscopy.

AC3141 Trifluoroacetic acid, EssentQ®



assay (acidimetric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,487 - 1,489  
 residue on evaporation . . . . . max. 0,01 %  
 water (K.F.) . . . . . max. 0,3 %

ART. NO.	VOLUME	CONTAINER
AC31410100	100 ml	
AC31411000	1 l	

ART. NO.	VOLUME	CONTAINER
AC3141025A	25 l	

AC3143 Trifluoroacetic acid, buffer substance, HPLC grade



assay (acidimetric) . . . . . min. 99,5 %  
 gradient elution . . . . . passes test  
 water (K.F.) . . . . . max. 0,05 %  
 max. absorbance in a 1,0 cm cell at  
 wavelength . . . . . absorbance  
 260 nm . . . . . 0,9 AU

270 nm . . . . .	0,1 AU
280 nm . . . . .	0,05 AU
290 nm . . . . .	0,04 AU
300 nm . . . . .	0,03 AU
320 nm . . . . .	0,025 AU

ART. NO.	VOLUME	CONTAINER
AC31430100	100 ml	

AC3144 Trifluoroacetic acid, eluent additive for LC-MS



assay (acidimetric) . . . . . min. 99 %  
 aluminium (Al) . . . . . max. 0,05 ppm  
 barium (Ba) . . . . . max. 0,05 ppm  
 cadmium (Cd) . . . . . max. 0,05 ppm  
 calcium (Ca) . . . . . max. 0,2 ppm  
 chromium (Cr) . . . . . max. 0,05 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,2 ppm  
 lead (Pb) . . . . . max. 0,1 ppm  
 lithium (Li) . . . . . max. 0,02 ppm  
 magnesium (Mg) . . . . . max. 0,5 ppm  
 manganese (Mn) . . . . . max. 0,05 ppm  
 molybdenum (Mo) . . . . . max. 0,02 ppm  
 nickel (Ni) . . . . . max. 0,05 ppm

potassium (K) . . . . . max. 0,1 ppm  
 sodium (Na) . . . . . max. 0,5 ppm  
 strontium (Sr) . . . . . max. 0,02 ppm  
 thallium (Tl) . . . . . max. 0,05 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 water (K.F.) . . . . . max. 0,05 %  
 suitability for use in LC-MS . . . . . passes test  
 max. absorbance in a 1,0 cm cell at  
 wavelength . . . . . A (AU)  
 260 nm . . . . . 0,90 AU  
 270 nm . . . . . 0,10 AU  
 280 nm . . . . . 0,05 AU  
 290 nm . . . . . 0,04 AU  
 300 nm . . . . . 0,03 AU  
 320 nm . . . . . 0,025 AU


ART. NO.	VOLUME	CONTAINER
AC31440050	50 ml	

AC3142 Trifluoroacetic acid, peptide synthesis grade



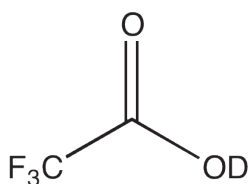
assay (acidimetric) . . . . . min. 99,5 %  
 identity (IR-spectrum) . . . . . passes test  
 density (20°/4°) . . . . . 1,487 - 1,489  
 chlorides (Cl) . . . . . max. 0,001 %

fluorides (F) . . . . . max. 0,005 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,001 %  
 residue on ignition (as SO<sub>3</sub>) . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,05 %

ART. NO.	VOLUME	CONTAINER
AC31420100	100 ml	
AC31421000	1 l	

## TRIFLUOROACETIC ACID-D

AC3140 Trifluoroacetic acid-d, deuteration degree min. 99,5%, NMR spectroscopy grade, Spectrosol®

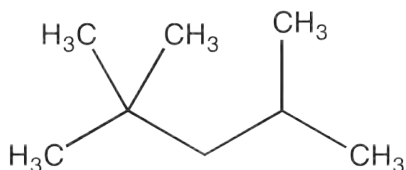


- CF<sub>3</sub>COOD
- M = 115,03 g/mol
- CAS [599-00-8]
- EINECS-No.: 209-961-2
- Density: 1,50 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: -15 °C
- Boiling point: 71 °C
- Vapour pressure: (20 °C) 11 hPa
- ADR: 8 C3 I UN 2699
- IMDG: 8 I UN 2699
- IATA/ICAO: 8 I UN 2699
- GHS-signal word: Danger
- GHS-H sentences: H314 - H332
- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2845 90 10 00
- Applications: for protein synthesizing, synthesis of organic products.

deuteration degree . . . . . min. 99,5 %  
 water (K.F., H<sub>2</sub>O + D<sub>2</sub>O) . . . . . max. 0,05 %  
 performance test (NMR-spectrum) . . . . . passes test

ART. NO.	VOLUME	CONTAINER
AC3140.750	10x0,75ml	

## 2,2,4-TRIMETHYLPENTANE



- Synonyms: Isooctane, Isobutyltrimethylmethane, iso-Octane
- $C_8H_{18}$
- $M = 114,26 \text{ g/mol}$
- CAS [540-84-1]
- EINECS-No.: 208-759-1
- Density:  $0,69 \text{ g/cm}^3$
- Solub. in water: (25 °C):  $0,56 \text{ mg/l}$
- Melting point:  $-107 \text{ °C}$
- Boiling point:  $99 \text{ °C}$
- Flash pt.  $-12 \text{ °C}$
- Ignition temp.:  $410 \text{ °C}$
- Vapour pressure: (20 °C)  $51 \text{ hPa}$
- Dielectric const.: (20 °C)  $1,9$
- LD 50 (oral, rat):  $> 2000 \text{ mg/kg}$
- EC-Index-No.: 601-009-00-8
- ADR: 3 F1 II UN 1262
- IMDG: 3 II UN 1262
- IATA/ICAO: 3 II UN 1262
- GHS-signal word: Danger
- GHS-H sentences: H225 - H304 - H400 - H410 - H315 - H336
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P321 - P405 - P501a
- Tariff number: 2901 10 00 00
- Applications: analytical chemistry, solvent for fat and oil extractions; in determining octane numbers of fuels.

### IS0153 2,2,4-Trimethylpentane, EssentQ®



assay (G.C.) ..... min. 99 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,691 - 0,693  
 acidity ..... max. 0,001 meq/g  
 copper (Cu) ..... max. 0,2 ppm  
 iron (Fe) ..... max. 0,5 ppm  
 lead (Pb) ..... max. 0,2 ppm

nickel (Ni) ..... max. 0,2 ppm  
 sulfur compounds (as S) ..... max. 0,002 %  
 residue on evaporation ..... max. 0,001 %  
 water (K.F.) ..... max. 0,02 %

ART. NO.	VOLUME	CONTAINER
IS01531000	1 l	0
IS01532500	2,5 l	0
IS0153005P	5 l	0
IS0153025A	25 l	0

### IS0154 2,2,4-Trimethylpentane, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (G.C.) ..... min. 99,5 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,691 - 0,693  
 density (20°/20°) ..... 0,691 - 0,696  
 boiling range (min. 95 %) ..... 98 - 100 °C  
 colour (Hazen) ..... max. 10  
 refractive index  $n_{20/D}$  ..... 1,391 - 1,393  
 acidity ..... max. 0,0003 meq/g  
 aluminium (Al) ..... max. 0,5 ppm  
 barium (Ba) ..... max. 0,1 ppm  
 boron (B) ..... max. 0,02 ppm  
 cadmium (Cd) ..... max. 0,05 ppm  
 calcium (Ca) ..... max. 0,5 ppm  
 chromium (Cr) ..... max. 0,02 ppm  
 cobalt (Co) ..... max. 0,02 ppm

copper (Cu) ..... max. 0,02 ppm  
 iron (Fe) ..... max. 0,1 ppm  
 lead (Pb) ..... max. 0,1 ppm  
 magnesium (Mg) ..... max. 0,1 ppm  
 manganese (Mn) ..... max. 0,02 ppm  
 nickel (Ni) ..... max. 0,02 ppm  
 tin (Sn) ..... max. 0,1 ppm  
 zinc (Zn) ..... max. 0,1 ppm  
 sulfur compounds (as S) ..... max. 0,005 %  
 substances darkened by  $H_2SO_4$  ..... passes test  
 min. transmission in a 1 cm cell  
 between 250 and 420 nm ..... 98 %  
 residue on evaporation ..... max. 0,001 %  
 water (K.F.) ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
IS01541000	1 l	0
IS01542500	2,5 l	0

### IS0156 2,2,4-Trimethylpentane, HPLC grade



assay (G.C.) ..... min. 99,5 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,691 - 0,693  
 acidity ..... max. 0,0002 meq/g  
 alkalinity ..... max. 0,0002 meq/g  
 residue on evaporation ..... max. 0,0002 %  
 water (K.F.) ..... max. 0,01 %

min. transmission/max. absorbance in a 1,0 cm cell at wavelength  
 T(%) A (AU)  
 210 nm ..... 50 % 0,301 AU  
 220 nm ..... 80 % 0,097 AU  
 245 nm ..... 98 % 0,009 AU  
 Microfiltered through membranes of pore diameter 0,22 µm

ART. NO.	VOLUME	CONTAINER
IS01561000	1 l	0
IS01562500	2,5 l	0

### IS0157 2,2,4-Trimethylpentane, for GC residue analysis



assay (G.C.) ..... min. 99,5 %  
 identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 0,691 - 0,693  
 residue on evaporation ..... max. 0,0001 %  
 water (K.F.) ..... max. 0,01 %  
 Suitable for organohalogenated pesticide and dioxins, furans and PCBs residue analysis. ECD, from 1,2,4-trichlorobenzene to decachlorobiphenyl, no peaks are obtained greater than 3 pg/ml as lindane. No peaks are obtained in vicinity of

2,4,5-trichlorobiphenyl. Suitable for highly volatile halogenated hydrocarbons trace analysis. ECD, from dichloromethane to 1,2,4-trichlorobenzene, no peaks are obtained greater than 1 ng/ml as tetrachloromethane.  
 Suitable for pesticide and polycyclic aromatic hydrocarbons residue analysis. FID, from 1-octanol to 1-tetradecanol, no peaks are obtained greater than 5 ng/ml as 1-tetradecanol. No peaks are obtained in vicinity of pyrene.

ART. NO.	VOLUME	CONTAINER
IS01571000	1 l	0
IS01572500	2,5 l	0

### IS0167 2,2,4-Trimethylpentane, GC-MS



assay (G.C.) ..... min. 99,5 %  
 colour (Hazen) ..... max. 10  
 identity (IR-spectrum) ..... passes test  
 residue on evaporation ..... max. 3 ppm  
 water (K.F.) ..... max. 0,05 %

GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n- tetradecane standard)) ..... max. 3,0 ng/ml (ppb)  
 Suitable for residue analysis

ART. NO.	VOLUME	CONTAINER
IS01671000	1 l	0
IS01672500	2,5 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

ISO160 2,2,4-Trimethylpentane, ASTM

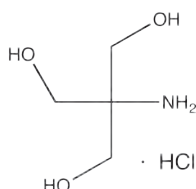


assay (G.C.)	min. 99,75 %	lead (Pb)	max. 0,002 g/gal
identity (IR-spectrum)	.passes test		
density (20°/4°)	0,691 - 0,693		
n-heptane (G.C.)	max. 0,1 %		

ART. NO.	VOLUME	CONTAINER
ISO160025A	25 l	
ISO160200L	200 l	

## TRIS-HCL

TR0425 Tris-HCl, molecular biology grade

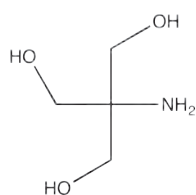


- Synonyms: Tris(hydroxymethyl)aminomethane hydrochloride
- C<sub>4</sub>H<sub>11</sub>NO<sub>3</sub>·HCl
- M = 157,60 g/mol
- CAS [1185-53-1]
- EINECS-No.: 214-684-5
- Solub. in water: (20 °C): freely soluble
- Melting point: 150 °C
- LD 50 (oral, rat): 5900 mg/kg (free substance)
- Tariff number: 2922 19 80 90
- Applications: analytical chemistry, for biology, in buffer solutions.

assay (argentometric, on dried sample) . . . . min. 99 %  
absorbance of an aqueous solution  
10 % in a 1 cm cell at 260 nm . . . . . max. 0,05 AU  
absorbance of an aqueous solution  
10 % in a 1 cm cell at 280 nm . . . . . max. 0,05 AU  
heavy metals (as Pb) . . . . . max. 2 ppm  
water (K.F.) . . . . . max. 0,5 %  
DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
TR04250100	100 g	
TR04251000	1 kg	
TR0425005P	5 kg	

## TRIS-(HYDROXYMETHYL)-AMINOMETHANE



- Synonyms: 2-Amino-2-(hydroxymethyl)-1,3-propanediol, Tromethamine, THAM, TRIS buffer
- C<sub>4</sub>H<sub>11</sub>NO<sub>3</sub>
- M = 121,14 g/mol
- CAS [77-86-1]
- EINECS-No.: 201-064-4
- Solub. in water: (20 °C): 800 g/l
- Melting point: 172 - 173 °C
- Boiling point: (13,3 hPa) 219 - 220 °C
- LD 50 (oral, rat): 5900 mg/kg

- GHS-signal word: Warning
- GHS-H sentences: H315 - H319
- GHS-P sentences: P280 - P305 + P351 + P338 - P321 - P362 - P332 + P313 - P337 + P313
- Tariff number: 2922 19 85 90
- Applications: analytical chemistry, in buffer solutions, in biochemistry, laboratory reagent, in the pharmaceuticals industry, emulsifier (cosmetics), for the synthesis of: tensoactives.

TR0422 Tris-(hydroxymethyl)-aminomethane, extra pure, Phampur®, Ph Eur, BP



assay (acidimetric, referred to dried sample)	99,0 - 100,5 %	iron (Fe)	max. 10 ppm
identification	.passes test	related substances	.passes test
pH (5 %, H <sub>2</sub> O)	10,0 - 11,5	residue on ignition	max. 0,1 %
appearance of solution	clear and colourless	loss on drying (105 °C)	max. 0,5 %
chlorides (Cl)	max. 0,01 %	Residual solvents are analysed according to guideline CPMP/ICH/283/95.	
heavy metals (as Pb)	max. 0,001 %		

iron (Fe) . . . . . max. 10 ppm  
related substances . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
loss on drying (105 °C) . . . . . max. 0,5 %  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
TR04220250	250 g	
TR04221000	1 kg	
TR0422005P	5 kg	
TR0422025P	25 kg	

TR0423 Tris-(hydroxymethyl)-aminomethane, buffer subs., ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (acidimetric, on dried sample)	99,8 - 100,1 %	heavy metals (as Pb)	max. 5 ppm
assay (acidimetric, referred to dried sample)	99,0 - 100,5 %	iron (Fe)	max. 5 ppm
identification	.passes test	lead (Pb)	max. 0,1 ppm
appearance of solution	clear	magnesium (Mg)	max. 0,3 ppm
insoluble in water	max. 0,003 %	potassium (K)	max. 0,3 ppm
pH (5 %, H <sub>2</sub> O)	10,3 - 10,9	sodium (Na)	max. 1 ppm
chlorides (Cl)	max. 0,0005 %	zinc (Zn)	max. 0,1 ppm
sulfates (SO <sub>4</sub> )	max. 0,0005 %	related substances (TLC)	.passes test
arsenic (As)	max. 0,2 ppm	loss on drying (105 °C)	max. 0,5 %
cadmium (Cd)	max. 0,1 ppm	residue on ignition	max. 0,1 %
calcium (Ca)	max. 1 ppm	water (K.F.)	max. 0,5 %
copper (Cu)	max. 0,1 ppm	absorbance (40 %, 1 cm, H <sub>2</sub> O)	at wavelegth 290 nm
			max. 0,2 AU

heavy metals (as Pb) . . . . . max. 5 ppm  
iron (Fe) . . . . . max. 5 ppm  
lead (Pb) . . . . . max. 0,1 ppm  
magnesium (Mg) . . . . . max. 0,3 ppm  
potassium (K) . . . . . max. 0,3 ppm  
sodium (Na) . . . . . max. 1 ppm  
zinc (Zn) . . . . . max. 0,1 ppm  
related substances (TLC) . . . . . passes test  
loss on drying (105 °C) . . . . . max. 0,5 %  
residue on ignition . . . . . max. 0,1 %  
water (K.F.) . . . . . max. 0,5 %  
absorbance (40 %, 1 cm, H<sub>2</sub>O) . . . . . at wavelegth 290 nm . . . . . max. 0,2 AU

ART. NO.	VOLUME	CONTAINER
TR04230100	100 g	
TR04230250	250 g	
TR04230500	500 g	
TR04231000	1 kg	
TR0423005P	5 kg	

TR0427 Tris-(hydroxymethyl)-aminomethane, secondary standard for volumetric titrations, Titrasure®



assay (on dried sample)	99,8 - 100,1 %	water (K.F.)	max. 2 %
absorbance	.passes test		
insoluble in water	max. 0,005 %		
uncertainty	0,05%		
heavy metals (as Pb)	max. 0,0005 %		
iron (Fe)	max. 0,0005 %		

water (K.F.) . . . . . max. 2 %  
Drying: Dry at room temperature for 24h in a vacuum desiccator over anhydrous magnesium perchlorate or equivalent

ART. NO.	VOLUME	CONTAINER
TR04270080	80 g	

A  
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Y  
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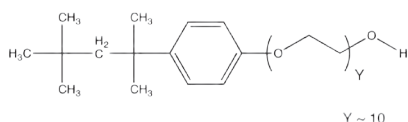
TR0424 Tris-(hydroxymethyl)-aminomethane, molecular biology grade

assay (acidimetric, on dried sample) . . . . . min. 99 %  
 absorbance of an aqueous solution  
 10 % in a 1 cm cell at 260 nm . . . . . max. 0,03 AU  
 absorbance of an aqueous solution  
 10 % in a 1 cm cell at 280 nm . . . . . max. 0,02 AU  
 heavy metals (as Pb) . . . . . max. 2 ppm  
 water (K.F.) . . . . . max. 0,3 %

DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
TR04240100	100 g	Ⓜ
TR04240500	500 g	Ⓜ
TR04241000	1 kg	Ⓜ
TR0424005P	5 kg	Ⓜ

**TRITON® X-100**



C34H62O11

- Synonyms: Octylphenol decaethylene glycol ether, Polyethylene glycol mono [p-(1,1,3,3-tetramethylbutyl) phenyl] ether, Deca (ethylene glycol) mono-octyl-phenyl ether, Octoxynol
- C<sub>34</sub>H<sub>62</sub>O<sub>x</sub> (x ~ 11)
- M = 646,37 g/mol
- CAS [9002-93-1]
- Density: 1,07 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: 6 °C
- Boiling point: 270 °C
- Flash pt. 251 °C

- Vapour pressure: (20 °C) < 0,01 hPa
- LD 50 (oral, rat): 707 mg/kg
- GHS-signal word: Danger
- GHS-H sentences: H318 - H302
- GHS-P sentences: P280 - P264 - P270 - P305 + P351 + P338 - P330 - P501a
- Tariff number: 3402 13 00 90
- Applications: analytical chemistry, chromatography, tensioactive substances, detergent, emulsifier, for cellular membranes solubilisation.
- Appearance: Colourless to yellowish

TR0444 Triton® X-100, EssentQ®

assay (iodometric) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 copper (Cu) . . . . . max. 0,003 %  
 iron (Fe) . . . . . max. 0,003 %

lead (Pb) . . . . . max. 0,003 %  
 residue on ignition . . . . . max. 0,5 %  
 nickel (Ni) . . . . . max. 0,003 %

ART. NO.	VOLUME	CONTAINER
TR04441000	1 l	Ⓜ
TR0444005P	5 l	Ⓜ

TR0447 Triton® X-100, molecular biology grade

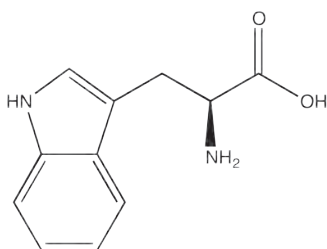
assay (iodometric) . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 pH (1 %, H<sub>2</sub>O) . . . . . 6,0 - 8,0

DNases, RNases, Proteases . . . . . non detected

ART. NO.	VOLUME	CONTAINER
TR04470050	50 ml	Ⓜ

**L-TRYPTOPHAN**

TR0400 L-Tryptophan, extra pure, Pharmapur®, Ph Eur, BP, USP

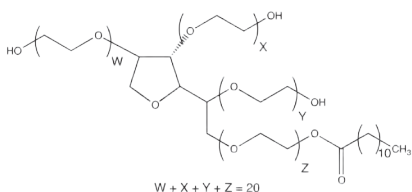


- Synonyms: (S)-α-Amino-1H-indole-3-propanoic acid
- C<sub>11</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>
- M = 204,23 g/mol
- CAS [73-22-3]
- EINECS-No.: 200-795-6
- Solub. in water: (20 °C): 10 g/l
- Melting point: 290 °C (decomposes)
- LD 50 (oral, rat): 16000 mg/kg
- Tariff number: 2933 99 80 90
- Applications: in biochemistry, for pharmaceutical use, for determination of proteins, in pharma industry.

assay (titr. with HClO<sub>4</sub>, referred to dried sample) . . . . . 98,5 - 101,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 pH (1%, H<sub>2</sub>O) . . . . . 5,5 - 7,0  
 chlorides (Cl) . . . . . max. 200 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 300 ppm  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,02 %  
 specific rotation ([α]<sub>D</sub><sup>20</sup>, c= 10, H<sub>2</sub>O) referred to dried sample) . . . . . -33,0 - -30,0  
 specific rotation ([α]<sub>D</sub><sup>25</sup>, c= 10, H<sub>2</sub>O) . . . . . -29,4 - -32,8  
 iron (Fe) . . . . . max. 20 ppm  
 ninhydrin-positive substances . . . . . passes test  
 related substances . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (105 °C) . . . . . max. 0,3 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
TR04000025	25 g	Ⓜ
TR04000100	100 g	Ⓜ

**TWEEN® 20**



- Synonyms: Polysorbate
- $C_{36}H_{74}O_{26}$
- M = 1227,72 g/mol
- CAS [9005-64-5]
- EINECS-No.: 500-018-3
- Density: 1,11 g/cm<sup>3</sup>
- Solub. in water: (25 °C): 100 g/l
- Boiling point: > 100 °C

- Flash pt. > 150 °C
- Vapour pressure: (20 °C) < 1,4 hPa
- LD 50 (oral, rat): 38900 mg/kg
- Tariff number: 3402 13 00 90
- Applications: laboratory reagent, synthesis of organic products, in food industry (E 432), emulsifier, stabilizer.

TW0020 Tween® 20, EssentQ®

identity (IR-spectrum) ..... passes test  
 density (20°/4°) ..... 1,095 - 1,105  
 acidity index. .... max. 3  
 hydroxyl number ..... 96 - 108  
 saponification index. .... 40 - 50  
 residue on ignition ..... max. 0,5 %

ART. NO.	VOLUME	CONTAINER
TW00200250	250 ml	0
TW00201000	1 l	0
TW0020005P	5 l	0

ART. NO.	VOLUME	CONTAINER
TW0020025P	25 l	0

TW0022 Tween® 20, molecular biology grade

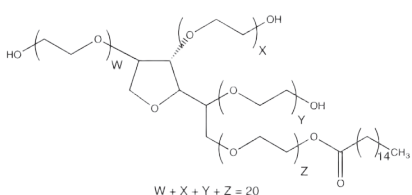
identity (IR-spectrum) ..... passes test  
 hydroxyl index ..... 96 - 108  
 saponification index. .... 40 - 50

DNases, RNases, Proteases ..... non detected

ART. NO.	VOLUME	CONTAINER
TW00220100	100 ml	0

**TWEEN® 40**

TW0040 Tween® 40, EssentQ®



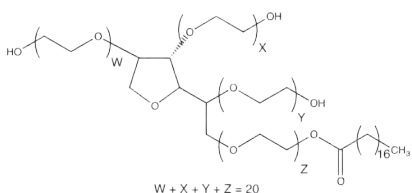
- Synonyms: Polysorbate
- $C_{54}H_{122}O_{26}$
- CAS [9005-66-7]
- Density: 1,09 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- LD 50 (oral, rat): 38000 mg/kg
- Tariff number: 3402 13 00 90
- Applications: synthesis of organic products, emulsifier, in pesticide compositions.

hydroxyl number ..... 90-105  
 identity (IR-spectrum) ..... passes test  
 saponification index. .... 41 - 52

ART. NO.	VOLUME	CONTAINER
TW00400250	250 ml	0

**TWEEN® 60**

TW0060 Tween® 60, EssentQ®



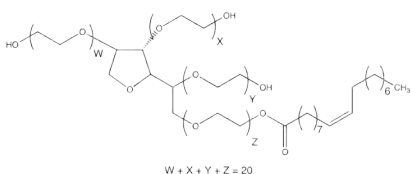
- Synonyms: Polysorbate
- $C_{54}H_{126}O_{26}$
- CAS [9005-67-8]
- EINECS-No.: 500-020-4
- Density: 1,08 g/cm<sup>3</sup>
- Solub. in water: (25 °C): miscible
- Boiling point: > 100 °C
- Flash pt. > 149 °C
- Vapour pressure: (20 °C) 38000 mg/kg
- Tariff number: 3402 13 00 90
- Applications: laboratory reagent, synthesis of organic products, cosmetics, emulsifier, in pesticide compositions.
- Appearance: Viscous liquid

hydroxyl number ..... 81 - 96  
 saponification index. .... 45 - 55

ART. NO.	VOLUME	CONTAINER
TW00600250	250 ml	0

## TWEEN® 80

TW0080 Tween® 80, EssentQ®



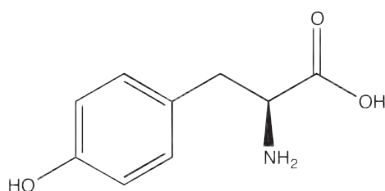
- Synonyms: Polysorbate
- $C_{24}H_{44}O_{26}$
- CAS [9005-65-6]
- EINECS-No.: 500-019-9
- Density: (25 °C) 1,07 g/cm<sup>3</sup>
- Solub. in water: (25 °C): miscible
- Boiling point: > 100 °C
- Flash pt. > 149 °C
- Ignition temp.: > 180 °C
- Vapour pressure: (20 °C) 38000 mg/kg
- Tariff number: 3402 13 00 90
- Applications: synthesis of organic products, for pharmaceutical use, cosmetics, emulsifier (in food industry), in pesticide compositions.

identity (IR-spectrum) ..... passes test  
density (20°/4°) ..... 1,073 - 1,083  
arsenic (As) ..... max. 1 ppm  
heavy metals (as Pb) ..... max. 0,001 %  
acidity index ..... 3  
hydroxyl number ..... 65 - 80  
iodine index ..... 18 - 24  
saponification index ..... 45 - 55  
residue on ignition ..... max. 0,2 %

ART. NO.	VOLUME	CONTAINER
TW00800100	100 ml	0
TW00800250	250 ml	0
TW00801000	1 l	0

## L-TYROSINE

Tl0325 L-Tyrosine, extra pure, Phampur®, Ph Eur, BP, USP



- Synonyms: 3-(4-Hydroxyphenyl)-L-alanine
- $C_9H_9NO_3$
- M = 181,19 g/mol
- CAS [60-18-4]
- EINECS-No.: 200-460-4
- Solub. in water: (20 °C): 0,38 g/l
- Melting point: 297 - 298 °C (decomposes)
- LD 50 (oral, rat): > 5110 mg/kg
- Tariff number: 2922 50 00 90
- Applications: in biochemistry, synthesis of organic products, for pharmaceutical use, for determination of proteins, in pharma industry.

assay (titr. with  $HClO_4$ , referred to dried sample) ..... 99,0 - 101,0 %  
identification ..... passes test  
appearance of solution ..... passes test  
specific rotation ( $[\alpha]_{20}^{D}$ , c = 5, HCl 1 mol/l, on dried sample) ..... - 12,3° - - 11,0°  
specific rotation ( $[\alpha]_{25}^{D}$ , c=5, HCl 1N) ..... - 9,8° - - 11,2°  
chlorides (Cl) ..... max. 200 ppm  
sulfates ( $SO_4$ ) ..... max. 300 ppm  
ammonium ( $NH_4$ ) ..... max. 0,02 %  
iron (Fe) ..... max. 10 ppm  
ninhydrin-positive substances ..... passes test  
residue on ignition ..... max. 0,1 %  
loss on drying (105°C) ..... max. 0,3 %  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

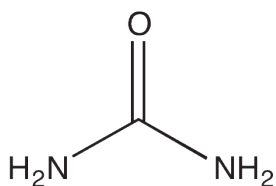
ART. NO.	VOLUME	CONTAINER
Tl03250100	100 g	0

# Laboratory Glassware Scharlau

- High Quality
- According to ISO Standards
- Made in European Union



**UREA**



- Synonyms: Carbamide, Carbonyldiamide
- $\text{CH}_2\text{N}_2\text{O}$
- $M = 60,06 \text{ g/mol}$
- CAS [57-13-6]
- EINECS-No.: 200-315-5
- Solub. in water: (20 °C): 590 g/l
- Melting point: 132,5 - 134,5 °C
- Vapour pressure: (75 °C) ~ 0,002 hPa

- LD 50 (oral, rat): 8471 mg/kg
- Tariff number: 3102 10 10 00
- Applications: laboratory reagent, in biochemistry, in fertilizer compositions, manufacturing of synthetic resins, in the plastics industry, for reversible denaturation of proteins.

**UR0130 Urea, EssentQ®**

assay (DSC) ..... min. 99 %  
identity (IR-spectrum) ..... passes test  
residue on ignition ..... max. 0,1 %

ART. NO.	VOLUME	CONTAINER
UR01300500	500 g	Ⓟ

ART. NO.	VOLUME	CONTAINER
UR01301000	1 kg	Ⓟ

**UR0131 Urea, ExpertQ®, for analysis, ACS**

assay (titration with  $\text{HClO}_4$ ) ..... 99 - 100,5 %  
identity (IR-spectrum) ..... passes test  
melting point ..... 132 - 135 °C  
insoluble in water ..... max. 0,005 %  
acidity (as HCl) ..... max. 0,002 %  
alkalinity (as NaOH) ..... max. 0,01 %  
chlorides (Cl) ..... max. 0,0005 %

sulfates ( $\text{SO}_4$ ) ..... max. 0,001 %  
copper (Cu) ..... max. 2 ppm  
heavy metals (as Pb) ..... max. 4 ppm  
iron (Fe) ..... max. 1 ppm  
nickel (Ni) ..... max. 2 ppm  
biuret ..... max. 0,1 %  
residue on ignition ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
UR01310500	500 g	Ⓟ
UR01311000	1 kg	Ⓟ
UR0131005P	5 kg	Ⓟ

**UR0133 Urea, molecular biology grade**

assay (DSC) ..... min. 99,5 %  
identity (IR-spectrum) ..... passes test  
appearance ..... passes test  
appearance of solution ..... passes test  
absorbance of an aqueous solution  
8 M in a 1 cm cell at 260 nm ..... max. 0,1 AU  
absorbance of an aqueous solution  
8 M in a 1 cm cell at 280 nm ..... max. 0,1 AU  
chlorides (Cl) ..... max. 0,0005 %

cyanides (CN) ..... max. 0,000001 %  
sulfates ( $\text{SO}_4$ ) ..... max. 0,001 %  
ammonium ( $\text{NH}_4$ ) ..... max. 0,00001 %  
heavy metals (as Pb) ..... max. 4 ppm  
iron (Fe) ..... max. 0,2 ppm  
biuret ..... max. 0,05 %  
residue on ignition (800 °C) ..... max. 0,01 %  
DNases, RNases, Proteases ..... non detected

ART. NO.	VOLUME	CONTAINER
UR01330100	100 g	Ⓟ
UR01330500	500 g	Ⓟ
UR01332500	2,5 kg	Ⓟ
UR0133005P	5 kg	Ⓟ

# Pesticide mix

according to official EU Regulation



The European Commission has adopted a regulation (533/2019) by which member states take and analyse samples for a set of pesticides during 2020 through 2022. The list of pesticides to be analysed includes more than 100 compounds. The list of pesticides varies according to the type of sample and year.

**These pesticides must be analysed in and on food of plant and animal origin in Member States of the European Union.**

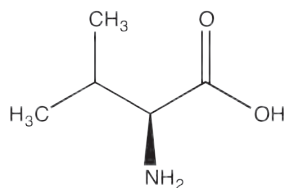
**Scharlab offers the suitable mix for each year and each type of sample, please ask us!  
Save in solvents, time and labour.**

Ask more information at [helpdesk@scharlab.com](mailto:helpdesk@scharlab.com)

A  
B  
C  
D  
E  
F  
G  
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## L-VALINE

VA0055 L-Valine, extra pure, Pharpur®, Ph Eur, BP, USP



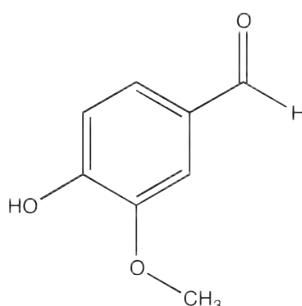
- Synonyms: 2-Aminoisovaleric acid, (S)-2-Amino-3-methylbutanoic acid
- $C_6H_{11}NO_2$
- M = 117,15 g/mol
- CAS [72-18-4]
- EINECS-No.: 200-773-6
- Solub. in water: (20 °C): 85 g/l
- Melting point: ~ 315 °C
- Tariff number: 2922 49 95 90
- Applications: in biochemistry, synthesis of organic products, for pharmaceutical use, in pharma industry.

assay (titr. with  $HClO_4$ , referred to dried sample) . . . . . 98,5 - 101,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 specific rotation ( $[\alpha]_{20}^D$ , c = 8, HCl 250g/l on dried substance) . . . . . + 26,5° - + 29,0°  
 specific rotation ( $[\alpha]_{25}^D$ ; c=8, HCl 6N) . . . . . + 26,6° - + 28,8°  
 pH (5 %,  $H_2O$ ) . . . . . 5,5 - 7,0  
 chlorides (Cl) . . . . . max. 200 ppm  
 sulfates ( $SO_4$ ) . . . . . max. 300 ppm  
 ammonium ( $NH_4$ ) . . . . . max. 0,02 %  
 iron (Fe) . . . . . max. 10 ppm  
 ninhydrin-positive substances . . . . . passes test  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (105 °C) . . . . . max. 0,3 %  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
VA00550025	25 g	Ⓛ
VA00550100	100 g	Ⓛ

## VANILLIN

VA0025 Vanillin, EssentQ®



- Synonyms: 4-Hydroxy-3-methoxybenzaldehyde
- $C_8H_8O_3$
- M = 152,15 g/mol
- CAS [121-33-5]
- EINECS-No.: 204-465-2
- Solub. in water: (25 °C): 10 g/l
- Melting point: ~ 82 °C
- Boiling point: (13 hPa) ~ 154 °C
- Flash pt. 153 °C
- Ignition temp.: > 400 °C
- Vapour pressure: (65 °C) 0,17 hPa
- LD 50 (oral, rat): 3978 mg/kg
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2912 41 00 00
- Applications: synthesis of organic products, in food industry, in the pharmaceuticals industry, cosmetics, perfumery.

assay (acidimetric, on dried sample) . . . . . 99 - 101 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution (5%, ethanol 96 %) . . . . . passes test  
 melting range . . . . . 81 - 83 °C  
 reaction to  $H_2SO_4$  . . . . . passes test  
 residue on ignition . . . . . max. 0,05 %  
 loss on drying . . . . . max. 1 %

ART. NO.	VOLUME	CONTAINER
VA00250100	100 g	Ⓛ
VA00250250	250 g	Ⓛ
VA00251000	1 kg	Ⓛ

## VASELINE

VA0150 Vaseline, white, EssentQ®

- CAS [8009-03-8]
- EINECS-No.: 295-456-2
- Solub. in water: (20 °C): insoluble
- Melting point: 40 - 60 °C
- Flash pt. 243 °C
- Refraction index: (n 60 °C/D) 1,460 - 1,474
- Tariff number: 2712 10 90 00
- Applications: analytical chemistry, cosmetics, in the pharmaceuticals industry.

melting range . . . . . 38 - 60 °C  
 acidity or alkalinity . . . . . passes test  
 oils, fats, resins . . . . . passes test  
 organic acid. . . . . max. 0,001 %  
 residue on ignition . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
VA01500250	250 g	Ⓛ
VA01501000	1 kg	Ⓛ
VA0150005P	5 kg	Ⓛ



## VASELINE OIL

AC0030 Vaseline oil, extra pure, Pharmpur®, Ph Eur, BP, USP

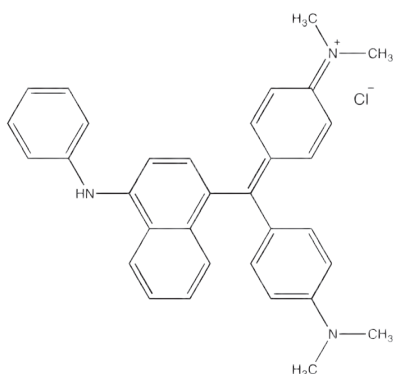
- Synonyms: Paraffin liquid, White Oil
- CAS [8012-95-1]
- EINECS-No.: 232-384-2
- Density: (15°C) 0,86 - 0,87 g/cm<sup>3</sup>
- Solub. in water: (20 °C): non-miscible
- Melting point: ~ -12 °C
- Flash pt. > 240 °C
- Refraction index: 1,4742
- LD 50 (oral, rat): > 5000 mg/kg
- Tariff number: 2710 19 85 00
- Applications: in lubricant compositions, cosmetics, protective agent, laxative, for heating baths, in pharma industry.

identification . . . . . passes test  
density (20°/20°) . . . . . 0,827 - 0,890  
acidity or alkalinity . . . . . passes test  
polycyclic aromatic hydrocarbons . . . . . passes test  
solid paraffin . . . . . passes test  
substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
viscosity . . . . . 110 - 230 mPas  
Residual solvents are analysed according to  
guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
AC00301000	1 l	Ⓟ
AC00302500	2,5 l	Ⓟ
AC0030005P	5 l	Ⓟ
AC0030025P	25 l	Ⓟ

## VICTORIA BLUE B, C.I. 44045

AZ0345 Victoria blue B, C.I. 44045, for microscopy



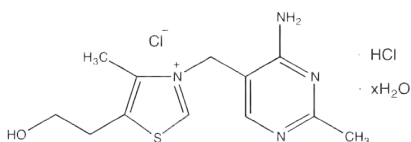
- Synonyms: Basic blue 26
- C<sub>25</sub>H<sub>20</sub>ClN<sub>3</sub>
- M = 506,09 g/mol
- CAS [2580-56-5]
- EINECS-No.: 219-943-6
- Melting point: 206 °C
- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 3204 13 00 90
- Applications: laboratory reagent, indicator, microscopy.

Absorption maximum l  
(in ethanol 50 %) . . . . . 612 - 617 nm  
Absorptivity (A1%/1 cm; l max.) . . . . . >1375  
related substances (TLC) . . . . . passes test  
loss on drying (135 °C) . . . . . max. 10 %

ART. NO.	VOLUME	CONTAINER
AZ03450010	10 g	Ⓟ
AZ03450025	25 g	Ⓟ

## VITAMIN B1 HYDROCHLORIDE

VI0150 Vitamin B1 hydrochloride, Pharmpur®, Ph Eur, BP, USP



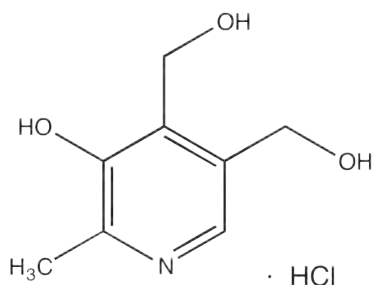
- Synonyms: Thiamine hydrochloride, Aneurine hydrochloride
- C<sub>12</sub>H<sub>17</sub>ClN<sub>4</sub>OS·HCl·xH<sub>2</sub>O
- M = 337,27 g/mol
- CAS [67-03-8]
- EINECS-No.: 200-641-8
- Solub. in water: (20 °C): soluble
- Melting point: ~ 248 °C
- LD 50 (oral, rat): 3710 mg/kg
- Tariff number: 2936 22 00 00
- Applications: in the pharmaceuticals industry, vitamin, in food industry, in pharma industry.

assay (titr. with HClO<sub>4</sub>; referred  
on dried sample) . . . . . 98,0 - 101,0 %  
assay (HPLC, referred to  
dried sample) . . . . . 98,0 - 102,0 %  
identification . . . . . passes test  
pH (2,5%, H<sub>2</sub>O) . . . . . 2,7 - 3,3  
pH (1%, H<sub>2</sub>O) . . . . . 2,7 - 3,4  
absorbance of an aqueous solution  
(10 %) in a 1 cm cell at 400 nm . . . . . max. 0,025 AU  
nitrates (NO<sub>3</sub>) . . . . . passes test  
sulfates (SO<sub>4</sub>) . . . . . max. 300 ppm  
related substances . . . . . passes test  
residue on ignition . . . . . max. 0,1 %  
water content . . . . . max. 5,0 %  
Elemental impurities are analysed according to guideline  
CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline  
CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
VI01500025	25 g	Ⓟ

## VITAMIN B6 HYDROCHLORIDE

VI0180 Vitamin B6 hydrochloride



- Synonyms: Adermine hydrochloride, Pyridoxine hydrochloride
- C<sub>8</sub>H<sub>11</sub>NO<sub>3</sub>·HCl
- M = 205,64 g/mol
- CAS [58-56-0]
- EINECS-No.: 200-386-2
- Solub. in water: (20 °C): ~ 220 g/l
- Melting point: 202 - 206 °C
- LD 50 (oral, rat): 4000 mg/kg
- Tariff number: 2936 25 00 00
- Applications: in the pharmaceuticals industry, vitamin, in food industry.

assay (titr. with HClO<sub>4</sub>; referred  
on dried sample) . . . . . min. 99,5 %  
heavy metals (as Pb) . . . . . max. 0,002 %  
loss on drying (105 °C) . . . . . max. 0,2 %

ART. NO.	VOLUME	CONTAINER
VI01800010	10 g	Ⓟ



## WATER



- H<sub>2</sub>O
- M = 18,02 g/mol
- CAS [7732-18-5]
- EINECS-No.: 231-791-2


- Density: 1,00 g/cm<sup>3</sup>
- Melting point: 0 °C
- Boiling point: 100 °C
- Vapour pressure: (20 °C) 23 hPa

- Dielectric const.: (20 °C) 80,2
- Tariff number: 2853 00 10 00
- Applications: solvents, analytical chemistry.

### AG0003 Water, deionized, EssentQ®

chlorides (Cl) . . . . .max. 0,005 %  
phosphates (as PO<sub>4</sub>) . . . . .max. 0,005 %  
sulfates (SO<sub>4</sub>) . . . . .max. 0,005 %






ART. NO.	VOLUME	CONTAINER
AG0003005P	5 l	
AG0003010C	10 l	

ART. NO.	VOLUME	CONTAINER
AG0003025P	25 l	
AG0003060P	60 l	

### AG0002 Water, ExpertQ®, for analysis

conductivity (25 °C) . . . . .max. 1 µS/cm  
chlorides (Cl) . . . . .max. 0,0001 %  
nitrates (NO<sub>3</sub>) . . . . .max. 0,00003 %  
phosphates (as PO<sub>4</sub>) . . . . .max. 0,00001 %  
silicates (SiO<sub>2</sub>) . . . . .max. 0,000001 %  
sulfates (SO<sub>4</sub>) . . . . .max. 0,0001 %  
aluminium (Al) . . . . .max. 0,2 ppm  
ammonium (NH<sub>4</sub>) . . . . .max. 0,00001 %  
barium (Ba) . . . . .max. 0,1 ppm  
cadmium (Cd) . . . . .max. 0,1 ppm  
calcium (Ca) . . . . .max. 0,3 ppm  
chromium (Cr) . . . . .max. 0,2 ppm




copper (Cu) . . . . .max. 0,1 ppm  
iron (Fe) . . . . .max. 0,1 ppm  
lead (Pb) . . . . .max. 0,2 ppm  
magnesium (Mg) . . . . .max. 0,1 ppm  
manganese (Mn) . . . . .max. 0,1 ppm  
nickel (Ni) . . . . .max. 0,1 ppm  
potassium (K) . . . . .max. 0,5 ppm  
sodium (Na) . . . . .max. 0,5 ppm  
zinc (Zn) . . . . .max. 0,1 ppm  
substances reducing KMnO<sub>4</sub> . . . . .passes test  
residue on evaporation . . . . .max. 0,0001 %

ART. NO.	VOLUME	CONTAINER
AG00021000	1 l	
AG00022500	2,5 l	
AG0002005P	5 l	
AG0002010C	10 l	
AG0002025P	25 l	

### AG0001 Water, gradient HPLC grade

conductivity (25 °C) . . . . .max. 1 µS/cm  
chlorides (Cl) . . . . .max. 0,00002 %  
nitrates (NO<sub>3</sub>) . . . . .max. 0,00003 %  
sulfates (SO<sub>4</sub>) . . . . .max. 0,0001 %  
residue on evaporation . . . . .max. 0,0001 %  
lead (Pb) . . . . .max. 0,1 ppm  
colony count . . . . .max. 25 UFC/g

microbiological test . . . . .passes test  
gradient elution: maximum absorption of the largest  
eluted peaks:  
at 210 nm . . . . .0,01 AU  
at 254 nm . . . . .0,001 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
AG00011000	1 l	
AG00012500	2,5 l	
AG00014000	4 l	

### AG0006 Water, LC-MS

conductivity (25 °C) . . . . .max. 1 µS/cm  
chlorides (Cl) . . . . .max. 0,000001 %  
fluorides (F) . . . . .max. 0,000001 %  
nitrates (NO<sub>3</sub>) . . . . .max. 0,00001 %  
sulfates (SO<sub>4</sub>) . . . . .max. 0,00001 %  
aluminium (Al) . . . . .max. 0,5 ppm  
barium (Ba) . . . . .max. 0,1 ppm  
cadmium (Cd) . . . . .max. 0,05 ppm  
calcium (Ca) . . . . .max. 0,1 ppm  
chromium (Cr) . . . . .max. 0,02 ppm  
cobalt (Co) . . . . .max. 0,02 ppm  
copper (Cu) . . . . .max. 0,02 ppm  
iron (Fe) . . . . .max. 0,1 ppm  
lead (Pb) . . . . .max. 0,1 ppm  
magnesium (Mg) . . . . .max. 0,1 ppm  
manganese (Mn) . . . . .max. 0,02 ppm  
nickel (Ni) . . . . .max. 0,02 ppm

potassium (K) . . . . .max. 0,1 ppm  
silver (Ag) . . . . .max. 0,1 ppm  
sodium (Na) . . . . .max. 0,1 ppm  
tin (Sn) . . . . .max. 0,1 ppm  
zinc (Zn) . . . . .max. 0,1 ppm  
residue on evaporation . . . . .max. 0,0001 %  
suitability for use in LC-MS . . . . .passes test  
min. transmission/max. absorbance in a 1,0 cm cell at  
wavelength T(%) A (AU)  
200 nm . . . . .95 % 0,022 AU  
230 nm . . . . .99 % 0,004 AU  
gradient grade (210 nm)  
maximum peak absorbance: max. 0,005 AU  
gradient grade (254 nm)  
maximum peak absorbance: max. 0,001 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
AG00061000	1 l	
AG00062500	2,5 l	

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

AG0015 Water, UHPLC-MS

conductivity (25 °C) .....max. 1 µS/cm  
 chlorides (Cl) .....max. 0,000001 %  
 fluorides (F) .....max. 0,000001 %  
 nitrates (NO<sub>3</sub>) .....max. 0,00001 %  
 sulfates (SO<sub>4</sub>) .....max. 0,00001 %  
 aluminium (Al) .....max. 0,02 ppm  
 barium (Ba) .....max. 0,02 ppm  
 cadmium (Cd) .....max. 0,02 ppm  
 calcium (Ca) .....max. 0,1 ppm  
 chromium (Cr) .....max. 0,02 ppm  
 cobalt (Co) .....max. 0,02 ppm  
 copper (Cu) .....max. 0,01 ppm  
 iron (Fe) .....max. 0,02 ppm  
 lead (Pb) .....max. 0,02 ppm  
 magnesium (Mg) .....max. 0,02 ppm  
 manganese (Mn) .....max. 0,01 ppm  
 nickel (Ni) .....max. 0,02 ppm  
 potassium (K) .....max. 0,05 ppm

silver (Ag) .....max. 0,1 ppm  
 sodium (Na) .....max. 0,1 ppm  
 tin (Sn) .....max. 0,1 ppm  
 zinc (Zn) .....max. 0,02 ppm  
 residue on evaporation .....max. 0,0001 %  
 suitability for use in UHPLC-MS. ....passes test  
 min. transmission/max. absorbance in a 1,0 cm cell  
 at wavelength T(%) A(AU)  
 200 nm .....95 % 0,022 AU  
 230 nm .....99 % 0,004 AU  
 gradient grade (210 nm)  
 maximum peak absorbance: 0,005 AU  
 gradient grade (254 nm)  
 maximum peak absorbance: 0,001 AU  
 UHPLC-MS test ESI+ .....max. 5 ppb Reserpin  
 UHPLC-MS test ESI- .....max. 20 ppb Digoxin  
 Microfiltered through membranes of pore diameter  
 0,1 µm

ART. NO.	VOLUME	CONTAINER
AG00151000	1 l	0
AG00152500	2,5 l	0

AG0014 Water, GC head space grade

conductivity (25°C) .....max. 1 µS/cm  
 Packed under inert gas. Suitable for residual solvents  
 analysis. Residual solvents are analysed according  
 to guideline CPMP/ICH/283/95. Class 1 solvents  
 excluded by production process. Class 2 and class 3  
 solvents likely to be present below following limits  
 tert-Butyl methyl ether .....1 mg/l  
 acetone .....1 mg/l

methanol .....1 mg/l  
 tetrahydrofuran .....0,7 mg/l  
 ethanol .....1 mg/l  
 acetonitrile .....0,4 mg/l  
 2-propanol .....1 mg/l  
 n-Propanol .....1 mg/l  
 1,4-Dioxane .....0,4 mg/l  
 pyridine .....1 mg/l

ART. NO.	VOLUME	CONTAINER
AG00141000	1 l	0

AG0016 Water, Ultratrace®, ppt-trace analysis grade

colour (Hazen) .....max. 10  
 chlorides (Cl) .....max. 1 ppb  
 phosphates (as PO<sub>4</sub>) .....max. 1 ppb  
 sulfates (SO<sub>4</sub>) .....max. 1 ppb  
 aluminium (Al) .....max. 20 ppt  
 antimony (Sb) .....max. 10 ppt  
 arsenic (As) .....max. 10 ppt  
 barium (Ba) .....max. 10 ppt  
 beryllium (Be) .....max. 10 ppt  
 bismuth (Bi) .....max. 10 ppt  
 boron (B) .....max. 20 ppt  
 cadmium (Cd) .....max. 10 ppt  
 calcium (Ca) .....max. 10 ppt  
 cerium (Ce) .....max. 10 ppt  
 cesium (Cs) .....max. 10 ppt  
 chromium (Cr) .....max. 10 ppt  
 cobalt (Co) .....max. 10 ppt  
 copper (Cu) .....max. 10 ppt  
 dysprosium (Dy) .....max. 1 ppt  
 erbium (Er) .....max. 1 ppt  
 europium (Eu) .....max. 1 ppt  
 gadolinium (Gd) .....max. 1 ppt  
 gallium (Ga) .....max. 10 ppt  
 germanium (Ge) .....max. 10 ppt  
 gold (Au) .....max. 10 ppt  
 hafnium (Hf) .....max. 1 ppt  
 holmium (Ho) .....max. 1 ppt  
 indium (In) .....max. 1 ppt  
 iron (Fe) .....max. 10 ppt  
 lanthanum (La) .....max. 1 ppt  
 lead (Pb) .....max. 10 ppt  
 lithium (Li) .....max. 10 ppt  
 lutetium (Lu) .....max. 1 ppt  
 magnesium (Mg) .....max. 10 ppt  
 manganese (Mn) .....max. 10 ppt

mercury (Hg) .....max. 20 ppt  
 molybdenum (Mo) .....max. 10 ppt  
 neodymium (Nd) .....max. 1 ppt  
 nickel (Ni) .....max. 10 ppt  
 niobium (Nb) .....max. 10 ppt  
 palladium (Pd) .....max. 10 ppt  
 platinum (Pt) .....max. 10 ppt  
 potassium (K) .....max. 10 ppt  
 praseodymium (Pr) .....max. 10 ppt  
 rhenium (Re) .....max. 10 ppt  
 rhodium (Rh) .....max. 10 ppt  
 rubidium (Rb) .....max. 10 ppt  
 ruthenium (Ru) .....max. 10 ppt  
 samarium (Sm) .....max. 10 ppt  
 scandium (Sc) .....max. 10 ppt  
 selenium (Se) .....max. 50 ppt  
 silver (Ag) .....max. 10 ppt  
 sodium (Na) .....max. 10 ppt  
 strontium (Sr) .....max. 10 ppt  
 tantalum (Ta) .....max. 10 ppt  
 tellurium (Te) .....max. 1 ppt  
 terbium (Tb) .....max. 10 ppt  
 thallium (Tl) .....max. 10 ppt  
 thorium (Th) .....max. 1 ppt  
 thulium (Tm) .....max. 10 ppt  
 tin (Sn) .....max. 10 ppt  
 titanium (Ti) .....max. 10 ppt  
 tungsten (W) .....max. 10 ppt  
 uranium (U) .....max. 1 ppt  
 vanadium (V) .....max. 10 ppt  
 ytterbium (Yb) .....max. 10 ppt  
 yttrium (Y) .....max. 1 ppt  
 zinc (Zn) .....max. 10 ppt  
 zirconium (Zr) .....max. 10 ppt

ART. NO.	VOLUME	CONTAINER
AG00161000	1 l	0

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

## WATER WITH 0,1% AMMONIUM ACETATE

AG0010 Water with 0,1% ammonium acetate, LC-MS

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, chromatography.

ammonium acetate content (w/v) . . . . . 0,093 - 0,107 %  
pH (20 °C) . . . . . 6,8 - 7,2  
calcium (Ca) . . . . .max. 0,5 ppm  
magnesium (Mg) . . . . .max. 0,5 ppm  
potassium (K) . . . . .max. 0,5 ppm  
sodium (Na) . . . . .max. 2 ppm  
suitability for use in LC-MS . . . . .passes test  
gradient grade (210 nm)  
maximum peak absorbance: max. 0,01 AU  
gradient grade (254 nm)  
maximum peak absorbance: max. 0,01 AU

min. transmission/max. absorbance in a 1,0 cm cell  
at wavelength T(%) A (AU)  
210 nm. . . . .20 % 0,699 AU  
230 nm . . . . .90 % 0,046 AU  
254 nm. . . . .99 % 0,004 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
AG00101000	1 l	0

## WATER WITH 0,1% FORMIC ACID

AG0008 Water with 0,1% formic acid, LC-MS

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, chromatography.

formic acid content (v/v) . . . . . 0,093 - 0,107 %  
pH (20 °C) . . . . . 2,6 - 2,8  
calcium (Ca) . . . . .max. 0,5 ppm  
magnesium (Mg) . . . . .max. 0,5 ppm  
potassium (K) . . . . .max. 0,5 ppm  
sodium (Na) . . . . .max. 2 ppm  
suitability for use in LC-MS . . . . .passes test  
gradient grade (210 nm)  
maximum peak absorbance: max. 0,05 AU  
gradient grade (254 nm)  
maximum peak absorbance: max. 0,01 AU

min. transmission/max. absorbance in a 1,0 cm cell  
at wavelength T(%) A (AU)  
210 nm. . . . . 5 % 1,301 AU  
230 nm . . . . .45 % 0,347 AU  
254 nm. . . . .99 % 0,004 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
AG00081000	1 l	0

## WATER WITH 0,1% TRIFLUOROACETIC ACID

AG0007 Water with 0,1% trifluoroacetic acid, LC-MS

- Density: ~ 1,00 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, chromatography.

trifluoroacetic acid content (v/v) . . . . . 0,093 - 0,107 %  
pH (20 °C) . . . . . 1,8 - 2,0  
calcium (Ca) . . . . .max. 0,5 ppm  
magnesium (Mg) . . . . .max. 0,5 ppm  
potassium (K) . . . . .max. 0,5 ppm  
sodium (Na) . . . . .max. 2 ppm  
suitability for use in LC-MS . . . . .passes test  
gradient grade (210 nm)  
maximum peak absorbance: max. 0,05 AU  
gradient grade (254 nm)  
maximum peak absorbance: max. 0,01 AU

min. transmission/max. absorbance in a 1,0 cm cell  
at wavelength T(%) A (AU)  
210 nm. . . . .25 % 0,602 AU  
230 nm . . . . .85 % 0,071 AU  
254 nm. . . . .99 % 0,004 AU  
Microfiltered through membranes of pore diameter  
0,22 µm

ART. NO.	VOLUME	CONTAINER
AG00071000	1 l	0

## WIJS SOLUTION

RE0070 Wijs solution, ICI solution 0,1 mol/l (0,2 N)



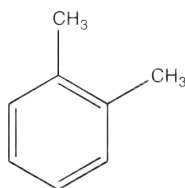
- ICI
- Density: 1,06 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible (decomposes)
- Flash pt. 40 °C
- LD 50 (oral, rat): 3310 mg/kg (chief component)
- ADR: 8 CF1 II UN 2920
- IMDG: 8 II UN 2920
- IATA/ICAO: 8 II UN 2920
- GHS-signal word: Danger

- GHS-H sentences: H314 - H226 - H312
- GHS-P sentences: P210 - P241 - P303 + P361 + P353 - P305 + P351 + P338 - P405 - P501a
- Tariff number: 3822 00 00 00
- Applications: analytical chemistry, for determination of iodine index.
- Appearance: Brown liquid

suitability for det. of iodine index . . . . .passes test

ART. NO.	VOLUME	CONTAINER
RE00700500	500 ml	0
RE00701000	1 l	0

**o-XYLENE**



- Synonyms: 1,2-Dimethylbenzene
- $C_8H_{10}$
- $M = 106,17$  g/mol
- CAS [95-47-6]
- EINECS-No.: 202-422-2
- Density: 0,88 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 0,18 g/l
- Melting point: -25 °C
- Boiling point: 144,4 °C
- Flash pt. 30 °C
- Ignition temp.: 465 °C
- Vapour pressure: (20 °C) 6,7 hPa
- Dielectric const.: (30 °C) 2,5

- LD 50 (oral, rat): 3609 mg/kg
- EC-Index-No.: 601-022-00-9 [1]
- ADR: 3 F1 III UN 1307
- IMDG: 3 III UN 1307
- IATA/ICAO: 3 III UN 1307
- GHS-signal word: Warning
- GHS-H sentences: H226 - H312 - H332 - H315
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P321 - P501a
- Tariff number: 2902 41 00 00
- Applications: synthesis of organic products, solvents, manufacture of dyes.

XI0025 o-Xylene, EssentQ®, Reag. Ph Eur



assay (G.C.) .....min. 99 %  
identity (IR-spectrum) .....passes test  
refractive index n<sub>20</sub>/D ..... 1,504 - 1,507  
density (20°/20°) ..... 0,880 - 0,884  
acidity ..... max. 0,0003 meq/g  
alkalinity ..... max. 0,00025 meq/g  
iron (Fe) .....max. 0,5 ppm  
copper (Cu) .....max. 0,2 ppm

lead (Pb) .....max. 0,2 ppm  
nickel (Ni) .....max. 0,2 ppm  
(m + p)-xylene (G.C.) ..... max. 1 %  
thiophene (G.C.) .....max. 0,0005 %  
sulfur compounds (as S) .....max. 0,003 %  
residue on evaporation .....max. 0,005 %  
water (K.F.) .....max. 0,03 %

ART. NO.	VOLUME	CONTAINER
XI00251000	1 l	0
XI00252500	2,5 l	0

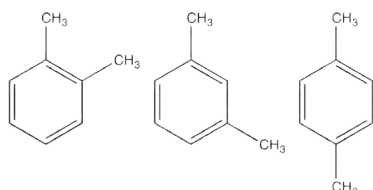
XI0026 o-Xylene, standard substance for GC



assay .....99,6%  
over ramp .....60°C, 6°C/min 160°C, 20°C/min 220°C  
identity .....IR

ART. NO.	VOLUME	CONTAINER
XI00260005	5 ml	0

**XYLENE, MIXTURE OF ISOMERS**



- Synonyms: Dimethylbenzene, Xylol
- $C_8H_{10}$
- $M = 106,17$  g/mol
- CAS [1330-20-7]
- EINECS-No.: 215-535-7
- Density: 0,86 g/cm<sup>3</sup>
- Solub. in water: (20 °C): 0,2 g/l
- Melting point: > -34 °C
- Boiling point: 137 - 143 °C
- Flash pt. 25 °C
- Ignition temp.: ~ 465 °C
- Vapour pressure: (20 °C) 10 hPa
- Dielectric const.: (25 °C) 2,4

- LD 50 (oral, rat): 2840 mg/kg
- EC-Index-No.: 601-022-00-9 [4]
- ADR: 3 F1 III UN 1307
- IMDG: 3 III UN 1307
- IATA/ICAO: 3 III UN 1307
- GHS-signal word: Warning
- GHS-H sentences: H226 - H312 - H332 - H315
- GHS-P sentences: P210 - P241 - P261 - P303 + P361 + P353 - P321 - P501a
- Tariff number: 2902 44 00 00
- Applications: synthesis of organic products, solvents, manufacture of dyes.

XI0051 Xylene, mixture of isomers, EssentQ®



total isomer content (G.C.) .....min. 98 %  
density (20°/4°) ..... 0,863 - 0,865  
acidity ..... max. 0,0003 meq/g  
alkalinity ..... max. 0,00025 meq/g  
copper (Cu) .....max. 0,2 ppm  
iron (Fe) .....max. 0,5 ppm  
lead (Pb) .....max. 0,2 ppm

nickel (Ni) .....max. 0,2 ppm  
thiophene (G.C.) .....max. 0,0005 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> .....passes test  
residue on evaporation .....max. 0,001 %  
water (K.F.) .....max. 0,05 %

ART. NO.	VOLUME	CONTAINER
XI00511000	1 l	0
XI00512500	2,5 l	0
XI0051005L	5 l	0
XI0051025A	25 l	0

XI0055 Xylene, mixture of isomers, ExpertQ®, for analysis, ACS, Reag. Ph Eur



total content of C<sub>8</sub>H<sub>10</sub> isomers (G.C.) .....min. 99 %  
density (20°/20°) ..... 0,865 - 0,867  
density (20°/4°) ..... 0,863 - 0,865  
refractive index n<sub>20</sub>/D ..... 1,495 - 1,499  
appearance ..... clear  
colour (Hazen) ..... max. 10  
boiling range (min. 95 %) ..... 137 - 142 °C  
acidity ..... max. 0,00025 meq/q  
alkalinity ..... max. 0,00025 meq/g  
aluminium (Al) .....max. 0,5 ppm  
barium (Ba) .....max. 0,1 ppm  
boron (B) .....max. 0,02 ppm  
cadmium (Cd) .....max. 0,05 ppm  
calcium (Ca) .....max. 0,5 ppm  
chromium (Cr) .....max. 0,02 ppm  
cobalt (Co) .....max. 0,02 ppm

copper (Cu) .....max. 0,02 ppm  
iron (Fe) .....max. 0,1 ppm  
lead (Pb) .....max. 0,1 ppm  
magnesium (Mg) .....max. 0,1 ppm  
manganese (Mn) .....max. 0,02 ppm  
nickel (Ni) .....max. 0,02 ppm  
tin (Sn) .....max. 0,1 ppm  
zinc (Zn) .....max. 0,1 ppm  
benzene (G.C.) ..... max. 0,1 %  
ethylbenzene (G.C.) ..... max. 25 %  
thiophene (G.C.) .....max. 0,0001 %  
toluene (G.C.) .....max. 0,4 %  
sulfur compounds (as S) .....max. 0,003 %  
substances darkened by H<sub>2</sub>SO<sub>4</sub> .....passes test  
residue on evaporation .....max. 0,0005 %  
water (K.F.) .....max. 0,02 %

ART. NO.	VOLUME	CONTAINER
XI00551000	1 l	0
XI00552500	2,5 l	0
XI0055005L	5 l	0
XI0055025A	25 l	0
XI0055025S	25 l	0
XI0055200L	200 l	0

## XI0059 Xylene, mixture of isomers, Multisolvant® ACS

total content of C<sub>8</sub>H<sub>10</sub> isomers (G.C.) . . . . . min. 99 %  
 density (20°/4°) . . . . . 0,863 - 0,865  
 appearance . . . . . clear  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,00025 meq/g  
 alkalinity . . . . . max. 0,00025 meq/g  
 aluminium (Al) . . . . . max. 0,1 ppm  
 barium (Ba) . . . . . max. 0,01 ppm  
 boron (B) . . . . . max. 0,02 ppm  
 cadmium (Cd) . . . . . max. 0,01 ppm  
 calcium (Ca) . . . . . max. 0,3 ppm  
 chromium (Cr) . . . . . max. 0,02 ppm  
 cobalt (Co) . . . . . max. 0,02 ppm  
 copper (Cu) . . . . . max. 0,02 ppm  
 iron (Fe) . . . . . max. 0,02 ppm

lead (Pb) . . . . . max. 0,1 ppm  
 magnesium (Mg) . . . . . max. 0,1 ppm  
 manganese (Mn) . . . . . max. 0,01 ppm  
 nickel (Ni) . . . . . max. 0,02 ppm  
 tin (Sn) . . . . . max. 0,1 ppm  
 zinc (Zn) . . . . . max. 0,1 ppm  
 benzene (G.C.) . . . . . max. 0,1 %  
 ethylbenzene (G.C.) . . . . . max. 25 %  
 thiophene (G.C.) . . . . . max. 0,0001 %  
 toluene (G.C.) . . . . . max. 0,4 %  
 sulfur compounds (as S) . . . . . max. 0,003 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,0003 %  
 water (K.F.) . . . . . max. 0,01 %

ART. NO.	VOLUME	CONTAINER
XI00591000	1 l	0
XI00592500	2,5 l	0
XI0059007E	7 l	0

## XI0053 Xylene, standard substance for GC

assay O-Xylene . . . . . 6,5 - 7,5 %  
 assay Ethylbenzene . . . . . 19,0 - 22,0 %  
 assay m-Xylene . . . . . 70,5 - 72,5 %  
 assay p-Xylene . . . . . 70,5 - 72,5 %

mixture Xylene . . . . . 99,0 %  
 over ramp . . . . . 60°C, 6°C/min 160°C, 20°C/min 220°C  
 identity . . . . . IR

ART. NO.	VOLUME	CONTAINER
XI00530005	5 ml	0

## XI0052 Xylene, mixture of isomers, for histology

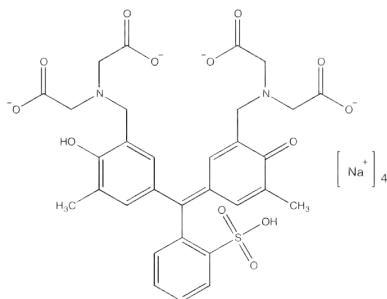
total content of C<sub>8</sub>H<sub>10</sub> isomers (G.C.) . . . . . min. 99 %  
 density (20°/4°) . . . . . 0,863 - 0,865  
 colour (Hazen) . . . . . max. 10  
 acidity . . . . . max. 0,00025 meq/g  
 alkalinity . . . . . max. 0,00025 meq/g  
 aluminium (Al) . . . . . max. 0,5 ppm  
 barium (Ba) . . . . . max. 0,2 ppm  
 boron (B) . . . . . max. 0,05 ppm  
 cadmium (Cd) . . . . . max. 0,1 ppm  
 calcium (Ca) . . . . . max. 1 ppm  
 chromium (Cr) . . . . . max. 0,05 ppm  
 cobalt (Co) . . . . . max. 0,1 ppm  
 copper (Cu) . . . . . max. 0,05 ppm  
 iron (Fe) . . . . . max. 0,2 ppm

lead (Pb) . . . . . max. 0,2 ppm  
 magnesium (Mg) . . . . . max. 0,2 ppm  
 manganese (Mn) . . . . . max. 0,05 ppm  
 nickel (Ni) . . . . . max. 0,05 ppm  
 tin (Sn) . . . . . max. 0,2 ppm  
 zinc (Zn) . . . . . max. 0,2 ppm  
 benzene (G.C.) . . . . . max. 0,1 %  
 ethylbenzene (G.C.) . . . . . max. 25 %  
 thiophene (G.C.) . . . . . max. 0,0005 %  
 toluene (G.C.) . . . . . max. 0,4 %  
 sulfur compounds (as S) . . . . . max. 0,003 %  
 substances darkened by H<sub>2</sub>SO<sub>4</sub> . . . . . passes test  
 residue on evaporation . . . . . max. 0,001 %  
 water (K.F.) . . . . . max. 0,03 %

ART. NO.	VOLUME	CONTAINER
XI00521000	1 l	0
XI00522500	2,5 l	0
XI0052005L	5 l	0
XI0052200L	200 l	0

# XYLENOL ORANGE, TETRASODIUM SALT

## AN0090 Xylenol orange, tetrasodium salt, indicator for metal titration, ACS

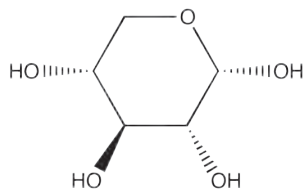


- Synonyms: 3',3''-Bis[bis(carboxymethyl)-aminoethyl] cresol sulfone phthran sodium salt
- C<sub>27</sub>H<sub>28</sub>N<sub>2</sub>Na<sub>4</sub>O<sub>8</sub>S
- M<sub>r</sub> = 760,60 g/mol
- CAS [3618-43-7]
- EINECS-No.: 222-805-8
- Solub. in water: (20 °C): ~ 510 g/l
- Tariff number: 2934 99 90 90
- Applications: analytical chemistry, indicator, for metals titration.

Absorption maximum λ (pH 14,0) . . . . . 582 - 585 nm  
 Absorptivity (A1%/1 cm; λ max, pH 14,0 on dried sample) . . . . . 600 - 650  
 appearance of solution . . . . . passes test  
 suitability as indicator for metal titration . . . . . passes test  
 loss on drying (110 °C) . . . . . max. 7 %

ART. NO.	VOLUME	CONTAINER
AN00900001	1 g	0
AN00900005	5 g	0

# D(+)-XYLOSE



- Synonyms: Wood sugar
- C<sub>5</sub>H<sub>10</sub>O<sub>5</sub>
- M<sub>r</sub> = 150,13 g/mol
- CAS [58-86-6]
- EINECS-No.: 200-400-7
- Solub. in water: (20 °C): freely soluble
- Melting point: 154 °C
- Tariff number: 2940 00 00 20

- Applications: cosmetics, manufacture of dyes, in food industry, in pharma industry.

## XI0079 D(+)-Xylose, EssentQ®

assay . . . . . min. 98 %  
 identity (IR-spectrum) . . . . . passes test  
 specific rotation ([α]<sub>D</sub><sup>20</sup>, c = 10, H<sub>2</sub>O) . . . . . +18,5° - 19,5°

residue on ignition . . . . . max. 0,1 %  
 water (K.F.) . . . . . max. 0,5 %

ART. NO.	VOLUME	CONTAINER
XI00790100	100 g	0

## XI0080 D(+)-Xylose, extra pure, Pharpur®, Ph Eur, BP

assay . . . . . min. 99 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution (10 %, H<sub>2</sub>O) . . . . . clear and colourless  
 specific rotation ([α]<sub>D</sub><sup>20</sup>, c = 5, H<sub>2</sub>O) . . . . . +18,5° - +19,5°  
 acidity or alkalinity . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,033 %

heavy metals (as Pb) . . . . . max. 0,002 %  
 residue on ignition . . . . . max. 0,1 %  
 loss on drying (105 °C) . . . . . max. 0,5 %  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013

ART. NO.	VOLUME	CONTAINER
XI00800100	100 g	0
XI00800250	250 g	0
XI00801000	1 kg	0

## ZINC

Cl0145 Zinc, powder, EssentQ®



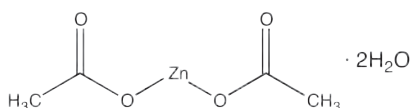
- Zn
- M = 65,38 g/mol
- CAS [7440-66-6]
- EINECS-No.: 231-175-3
- Solub. in water: (20 °C): hydrolysis reaction
- Melting point: 420 °C
- Boiling point: 908 °C
- Ignition temp.: 460 °C
- Vapour pressure: (487 °C) 1,33 hPa
- EC-Index-No.: 030-001-00-1
- ADR: 4.3 WS III UN 1436
- IMDG: 4.3 III UN 1436
- IATA/ICAO: 4.3 III UN 1436

- GHS-signal word: Danger
- GHS-H sentences: H250 - H260 - H400 - H410
- GHS-P sentences: P210 - P222 - P231 + P232 - P280 - P422a - P501a
- Tariff number: 7903 90 00 00
- Applications: analytical chemistry, laboratory reagent, electrical conductor, in galvanotechnology (corrosion inhibitor), electrolyte for batteries, metal alloys, reducing agent.
- Appearance: Grey powder

assay (complexometric) ..... min. 97 %  
insoluble in HCl ..... max. 0,05 %  
arsenic (As) ..... max. 0,0001 %  
cadmium (Cd) ..... max. 0,05 %  
iron (Fe) ..... max. 0,005 %  
lead (Pb) ..... max. 0,01 %

ART. NO.	VOLUME	CONTAINER
Cl01450500	500 g	P
Cl01451000	1 kg	P
Cl0145005P	5 kg	P

## ZINC ACETATE DIHYDRATE



- Synonyms: Acetic acid zinc salt dihydrate
- $\text{Zn}(\text{CH}_3\text{COO})_2 \cdot 2\text{H}_2\text{O}$
- M = 219,49 g/mol
- CAS [5970-45-6]
- EINECS-No.: 209-170-2
- Solub. in water: (20 °C): 430 g/l
- Melting point: ~ 100 °C
- LD 50 (oral, rat): 794 mg/kg

- GHS-signal word: Warning
- GHS-H sentences: H302
- GHS-P sentences: P264 - P270 - P330 - P301 + P312 - P501a
- Tariff number: 2915 29 00 90
- Applications: analytical chemistry, laboratory reagent, for the detection of: urobilin.

Cl0150 Zinc acetate dihydrate, extra pure, Phampur®, Ph Eur, BP, USP



assay (complexometric) ..... 99,0 - 101,0 %  
identification ..... passes test  
appearance of solution ..... clear and colourless  
insoluble matter ..... max. 0,005 %  
pH (5 %, H<sub>2</sub>O) ..... 6,0 - 7,0  
chlorides (Cl) ..... max. 50 ppm  
sulfates (SO<sub>4</sub>) ..... max. 100 ppm  
aluminium (Al) ..... max. 5 ppm  
arsenic (As) ..... max. 2 ppm  
cadmium (Cd) ..... max. 2 ppm

copper (Cu) ..... max. 50 ppm  
iron (Fe) ..... max. 50 ppm  
lead (Pb) ..... max. 10 ppm  
alkali and alkaline-earth salts ..... max. 0,2 %  
reducing substances ..... passes test  
Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
Cl01500500	500 g	P
Cl01501000	1 kg	P
Cl0150005P	5 kg	P
Cl0150025P	25 kg	P

Cl0151 Zinc acetate dihydrate, ExpertQ®, for analysis, ACS, Reag. Ph Eur



assay (complexometric) ..... 99,0 - 101,0 %  
identity (IR-spectrum) ..... passes test  
insoluble in water ..... max. 0,005 %  
pH (5 %, H<sub>2</sub>O) ..... 6,0 - 7,0  
chlorides (Cl) ..... max. 5 ppm  
sulfates (SO<sub>4</sub>) ..... max. 0,005 %  
cadmium (Cd) ..... max. 5 ppm

calcium (Ca) ..... max. 0,001 %  
copper (Cu) ..... max. 5 ppm  
iron (Fe) ..... max. 5 ppm  
lead (Pb) ..... max. 5 ppm  
magnesium (Mg) ..... max. 0,005 %  
potassium (K) ..... max. 0,01 %  
sodium (Na) ..... max. 0,001 %

ART. NO.	VOLUME	CONTAINER
Cl01510500	500 g	P
Cl01511000	1 kg	P
Cl0151005P	5 kg	P
Cl0151025P	25 kg	P

## ZINC CHLORIDE

- ZnCl<sub>2</sub>
- M = 136,28 g/mol
- CAS [7646-85-7]
- EINECS-No.: 231-592-0
- Solub. in water: (20 °C): soluble
- Melting point: 318 °C
- Boiling point: 730 °C

- LD 50 (oral, rat): 350 mg/kg
- EC-Index-No.: 030-003-00-2
- ADR: 8 C2 III UN 2331
- IMDG: 8 III UN 2331
- IATA/ICAO: 8 III UN 2331
- GHS-signal word: Danger
- GHS-H sentences: H314 - H400 - H410 - H302

- GHS-P sentences: P260 - P303 + P361 + P353 - P305 + P351 + P338 - P321 - P405 - P501a
- Tariff number: 2827 39 85 90
- Applications: analytical chemistry, laboratory reagent, catalyst, synthesis of organic products.
- Appearance: White crystalline powder

Cl0159 Zinc chloride, EssentQ®



assay (complexometric) ..... min. 97 %  
pH (10 %, H<sub>2</sub>O) ..... 4,6 - 5,5  
sulfates (SO<sub>4</sub>) ..... max. 0,05 %

iron (Fe) ..... max. 0,005 %





ART. NO.	VOLUME	CONTAINER
Cl01592500	2,5 kg	P




Cl0160 Zinc chloride, extra pure, Pharpur®, Ph Eur, BP, USP
 

assay (complexometric) . . . . . 97,0 - 100,5 %  
 identification . . . . . passes test  
 pH (10 %, H<sub>2</sub>O) . . . . . 4,6 - 5,5  
 alkali and alkaline-earth salts . . . . . max. 1,0 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 400 ppm  
 limit of ammonium salts . . . . . passes test  
 sulfates (SO<sub>4</sub>) . . . . . max. 200 ppm  
 oxychlorides . . . . . passes test

aluminium, calcium iron  
 and magnesium . . . . . passes test  
 lead (Pb) . . . . . max. 0,005 %  
 Elemental impurities are analysed according to guideline  
 CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline  
 CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
Cl01600500	500 g	
Cl01601000	1 kg	
Cl0160005P	5 kg	
Cl0160025P	25 kg	

 Cl0162 Zinc chloride, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur
 

assay (complexometric) . . . . . 98,0 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble matter . . . . . max. 0,005 %  
 pH (10 %, H<sub>2</sub>O) . . . . . 4,6 - 5,5  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,003 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,002 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,005 %  
 oxychloride (acidimetric, as ZnO) . . . . . max. 1,2 %  
 oxychlorides . . . . . passes test  
 total nitrogen (as N) . . . . . max. 0,002 %

aluminium, calcium iron and  
 magnesium . . . . . passes test  
 cadmium (Cd) . . . . . max. 5 ppm  
 calcium (Ca) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 0,001 %  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,001 %  
 magnesium (Mg) . . . . . max. 0,01 %  
 potassium (K) . . . . . max. 0,02 %  
 sodium (Na) . . . . . max. 0,005 %

ART. NO.	VOLUME	CONTAINER
Cl01620250	250 g	
Cl01621000	1 kg	


 Cl0155 Zinc chloride, molecular biology grade
 

assay (complexometric) . . . . . min. 98 %  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,001 %

magnesium (Mg) . . . . . max. 0,001 %  
 DNases, RNases, Proteases . . . . . passes test

ART. NO.	VOLUME	CONTAINER
Cl01550050	50 g	

## ZINC NITRATE HEXAHYDRATE

 Cl0185 Zinc nitrate hexahydrate, ExpertQ®, for analysis
 

- Synonyms: Nitric acid zinc salt hexahydrate
- Zn(NO<sub>3</sub>)<sub>2</sub>·6H<sub>2</sub>O
- M = 297,51 g/mol
- CAS [10196-18-6]
- EINECS-No.: 231-943-8
- Solub. in water: (20 °C): soluble
- Melting point: ~ 36 °C
- LD 50 (oral, rat): 1190 mg/kg
- ADR: 5.1 O2 II UN 1514
- IMDG: 5.1 II UN 1514
- IATA/ICAO: 5.1 II UN 1514
- GHS-signal word: Danger
- GHS-H sentences: H272
- GHS-P sentences: P221 - P210 - P220 - P280 - P370 + P378a - P501a
- Tariff number: 2834 29 80 00

- Applications: analytical chemistry, laboratory reagent, oxidizing agent, catalyst, mordant/corrosive.

assay (complexometric) . . . . . 98,5 - 102 %  
 insoluble in water . . . . . max. 0,005 %  
 free acid (as HNO<sub>3</sub>) . . . . . max. 0,02 %  
 chlorides (Cl) . . . . . max. 0,002 %  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,01 %  
 ammonia (NH<sub>3</sub>) . . . . . max. 0,01 %  
 calcium (Ca) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 0,001 %  
 lead (Pb) . . . . . max. 0,005 %  
 magnesium (Mg) . . . . . max. 0,002 %  
 nickel (Ni) . . . . . max. 5 ppm

ART. NO.	VOLUME	CONTAINER
Cl01850500	500 g	
Cl01851000	1 kg	

## ZINC OXIDE

- ZnO
- M = 81,37 g/mol
- CAS [1314-13-2]
- EINECS-No.: 215-222-5
- Solub. in water: (20 °C): insoluble
- Melting point: ~ 1970 °C

- LD 50 (oral, rat): > 5000 mg/kg
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Warning
- GHS-H sentences: H400 - H410

- GHS-P sentences: P273 - P391 - P501a
- Tariff number: 2817 00 00 00
- Applications: analytical chemistry, laboratory reagent, reference material, in the pharmaceuticals industry, in food industry, cosmetics.

 Cl0195 Zinc oxide, extra pure, Pharpur®, Ph Eur, BP, USP
 

assay (on ignited sample) . . . . . 99,0 - 100,5 %  
 identification . . . . . passes test  
 alkalinity . . . . . passes test  
 carbonates and substances  
 insoluble in acid . . . . . passes test  
 carbonate and colour of solution . . . . . passes test  
 arsenic (As) . . . . . max. 5 ppm  
 cadmium (Cd) . . . . . max. 10 ppm  
 iron (Fe) . . . . . max. 200 ppm

iron and other heavy metals . . . . . passes test  
 lead (Pb) . . . . . max. 50 ppm  
 lead (Pb) . . . . . passes test  
 residue on ignition (500 °C) . . . . . max. 1,0 %  
 Elemental impurities are analysed according to guideline  
 CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline  
 CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
Cl01951000	1 kg	
Cl0195005P	5 kg	

Cl0200 Zinc oxide, ExpertQ®, for analysis, ACS, Reag. Ph Eur



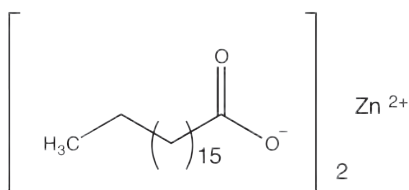
assay (complexometric) . . . . . min. 99,0 %  
 assay (on ignited sample) . . . . . 99,0 - 100,5 %  
 identity (IR-spectrum) . . . . . passes test  
 insoluble in diluted H<sub>2</sub>SO<sub>4</sub> . . . . . max. 0,01 %  
 carbonates and substances  
 insoluble in acid . . . . . passes test  
 alkalinity . . . . . passes test  
 chlorides (Cl) . . . . . max. 0,001 %  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,003 %  
 arsenic (As) . . . . . max. 1 ppm  
 cadmium (Cd) . . . . . max. 5 ppm

calcium (Ca) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,002 %  
 magnesium (Mg) . . . . . max. 0,005 %  
 manganese (Mn) . . . . . max. 5 ppm  
 potassium (K) . . . . . max. 0,01 %  
 sodium (Na) . . . . . max. 0,001 %  
 sulphur compounds (as SO<sub>4</sub>) . . . . . max. 0,01 %  
 residue on ignition (500 °C) . . . . . max. 1,0 %

ART. NO.	VOLUME	CONTAINER
Cl02000500	500 g	P
Cl02001000	1 kg	P
Cl0200005P	5 kg	P

## ZINC STEARATE

Cl0180 Zinc stearate, extra pure, Pharmed®, Ph Eur, BP, USP



- Synonyms: Stearic acid zinc salt
- C<sub>36</sub>H<sub>70</sub>O<sub>2</sub>Zn
- M = 632,33 g/mol
- CAS [557-05-1]
- EINECS-No.: 209-151-9
- Solub. in water: (20 °C): insoluble
- Melting point: 120 - 122 °C
- Ignition temp.: 435 °C
- LD 50 (oral, rat): > 5000 mg/kg
- Tariff number: 2915 70 30 00
- Applications: for pharmaceutical use, cosmetics, in lubricant compositions, antiseptic, in pharma industry.

assay (complexometric, as Zn) . . . . . 10,0 - 12,0 %  
 assay (complexometric, as ZnO) . . . . . 12,5 - 14,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . passes test  
 appearance of solution of fatty acids . . . . . passes test  
 acidity or alkalinity . . . . . passes test  
 acid value of the fatty acids . . . . . 195 - 210  
 chlorides (Cl) . . . . . max. 250 ppm  
 sulfates (SO<sub>4</sub>) . . . . . max. 0,6 %  
 alkali and alkaline earth metals . . . . . max. 1,0 %  
 arsenic (As) . . . . . max. 1,5 ppm  
 cadmium (Cd) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 10 ppm  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
Cl01800500	500 g	P
Cl01801000	1 kg	P
Cl0180005P	5 kg	P

## ZINC SULFATE HEPTAHYDRATE

- Synonyms: Sulfuric acid zinc salt heptahydrate, Zinc vitriol
- ZnSO<sub>4</sub>·7H<sub>2</sub>O
- M = 287,54 g/mol
- CAS [7446-20-0]
- EINECS-No.: 231-793-3
- Solub. in water: (20 °C): 960 g/l

- Melting point: ~ 40 °C (decomposes)
- LD 50 (oral, rat): 2150 mg/kg
- EC-Index-No.: 030-006-00-9
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077
- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Danger

- GHS-H sentences: H318 - H400 - H410 - H302
- GHS-P sentences: P280 - P273 - P264 - P270 - P305 + P351 + P338 - P501a
- Tariff number: 2833 29 20 00
- Applications: analytical chemistry, laboratory reagent, in galvanotechnology, for deproteinating blood and urine.

Cl0206 Zinc sulfate heptahydrate, extra pure, Pharmed®, Ph Eur, BP, USP



assay (complexometric) . . . . . 99,0 - 104,0 %  
 assay (complexometric, referred to dried sample) . . . . . 55,6 - 61,0 %  
 identification . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 acidity . . . . . passes test  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,4 - 5,6  
 alkalis and alkaline earths . . . . . max. 0,9 %

chlorides (Cl) . . . . . max. 300 ppm  
 arsenic (As) . . . . . max. 14 ppm  
 iron (Fe) . . . . . max. 100 ppm  
 lead (Pb) . . . . . max. 20 ppm  
 Elemental impurities are analysed according to guideline CHMP/ICH/353369/2013.  
 Residual solvents are analysed according to guideline CPMP/ICH/283/95.

ART. NO.	VOLUME	CONTAINER
Cl02060500	500 g	P
Cl02061000	1 kg	P
Cl0206005P	5 kg	P
Cl0206025P	25 kg	P

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

CI0207 Zinc sulfate heptahydrate, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur



assay (complexometric) . . . . . 99,5 - 103,0 %  
 identity (IR-spectrum) . . . . . passes test  
 appearance of solution . . . . . clear and colourless  
 insoluble in water . . . . . max. 0,01 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,4 - 5,6  
 chlorides (Cl) . . . . . max. 5 ppm  
 nitrates (NO<sub>3</sub>) . . . . . max. 0,002 %  
 total nitrogen (as N) . . . . . max. 0,001 %  
 ammonium (NH<sub>4</sub>) . . . . . max. 0,001 %  
 arsenic (As) . . . . . max. 0,5 ppm

cadmium (Cd) . . . . . max. 5 ppm  
 calcium (Ca) . . . . . max. 0,001 %  
 copper (Cu) . . . . . max. 5 ppm  
 iron (Fe) . . . . . max. 5 ppm  
 lead (Pb) . . . . . max. 0,001 %  
 magnesium (Mg) . . . . . max. 0,001 %  
 manganese (Mn) . . . . . max. 3 ppm  
 potassium (K) . . . . . max. 0,001 %  
 sodium (Na) . . . . . max. 0,001 %

ART. NO.	VOLUME	CONTAINER
CI0207025P	25 kg	
CI02070500	500 g	
CI02071000	1 kg	
CI0207005P	5 kg	

## ZINC SULFATE MONOHYDRATE

CI0205 Zinc sulfate monohydrate, EssentQ®



- Synonyms: Sulfuric acid zinc salt monohydrate
- ZnSO<sub>4</sub>·H<sub>2</sub>O
- M = 179,45 g/mol
- CAS [7446-19-7]
- EINECS-No.: 231-793-3
- Solub. in water: (20 °C): ~ 350 g/l
- Melting point: ~ 740 °C (anhydrous substance)
- LD 50 (oral, rat): 2150 mg/kg (heptahydrate substance)
- EC-Index-No.: 030-006-00-9
- ADR: 9 M7 III UN 3077
- IMDG: 9 III UN 3077

- IATA/ICAO: 9 III UN 3077
- GHS-signal word: Danger
- GHS-H sentences: H318 - H400 - H410 - H302
- GHS-P sentences: P280 - P273 - P264 - P270 - P305 + P351 + P338 - P501a
- Tariff number: 2833 29 20 00
- Applications: synthesis of organic products, in the pharmaceuticals industry, analytical chemistry, laboratory reagent, in galvanotechnia.

assay (complexometric) . . . . . min. 98 %  
 pH (5 %, H<sub>2</sub>O) . . . . . 4,4 - 6,0

ART. NO.	VOLUME	CONTAINER
CI02051000	1 kg	

## ZINC SULFATE, VOLUMETRIC SOLUTIONS

CI0230 Zinc sulfate, solution 0,05 mol/l

- ZnSO<sub>4</sub>·7H<sub>2</sub>O
- M = 287,54 g/mol
- CAS [7446-20-0]
- EINECS-No.: 231-793-3
- Density: 1,00 g/cm<sup>3</sup>
- EC-Index-No.: 030-006-00-9
- GHS-H sentences: H412
- GHS-P sentences: P273 - P501a
- Tariff number: 2833 29 20 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,00807 g ZnSO<sub>4</sub>  
 This volumetric solution was checked by means of potentiometric methods using an EDTA disodium salt standard solution, that was also checked against Scharlau's calcium carbonate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
CI02301000	1 l	

CI0231 Zinc sulfate, solution 0,1 mol/l



- ZnSO<sub>4</sub>·7H<sub>2</sub>O
- M = 287,54 g/mol
- CAS [7446-20-0]
- EINECS-No.: 231-793-3
- Density: 1,01 g/cm<sup>3</sup>
- EC-Index-No.: 030-006-00-9
- GHS-signal word: Warning
- GHS-H sentences: H319 - H412
- GHS-P sentences: P280 - P273 - P264 - P305 + P351 + P338 - P337 + P313 - P501a
- Tariff number: 2833 29 20 00
- Applications: analytical chemistry, laboratory reagent, titrant in volumetric analysis.

factor . . . . . 0,999 - 1,001  
 uncertainty ± 0,001  
 1 ml = 0,01614 g ZnSO<sub>4</sub>  
 This volumetric solution was checked by means of potentiometric methods using an EDTA disodium salt standard solution, that was also checked against Scharlau's calcium carbonate volumetric standard. Scharlau's volumetric standards are directly traceable to the Standard Reference Materials from NIST (National Institute of Standards and Technology, USA).

ART. NO.	VOLUME	CONTAINER
CI02311000	1 l	

# ORGANIC STANDARDS

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# ORGANIC STANDARDS

## Introduction

Some years ago, Scharlab detected that the requests for organic standards were growing among its customers. In 2016, the Scharlau organic standard catalogue was launched.

Scharlab offers a wide range of analytical standards for residue and environmental analysis, pesticides, metabolites, deuterium and <sup>13</sup>C labelled compounds among others.

Our portfolio includes Neat standards, standards in solution and custom-made products.

Different methods and regulations require organic standards. To facilitate the search, Scharlau organic standards are classified in the following categories:

- Neat standards
- Single component solution
- EPA Methods
- ASTM Methods
- ISO Methods
- EN Standards
- Contaminant standards

This catalogue only includes standards according to EPA Methods, but on our website, you will find the organic standards classified according to ASTM Methods, ISO Methods, EN Standards, contaminant standards, single component solutions and Neat standards.

All our organic standards are suitable for GC/GC-MS, HPLC/HPLC-MS and are available in different packaging, from a 1 ml vial to 10 ml.

In addition, we offer the possibility of mixes made according to our customers' requirements. If you cannot find the mix or packaging you need, please send us an email to: [helpdesk@scharlab.com](mailto:helpdesk@scharlab.com).

**See complete range of standards  
in this QR code**



Complete range of standards classified according to ASTM Methods, ISO Methods, EN Standards, contaminant standards, single component solutions and Neat standards.

# Our portfolio includes Neat standards, standards in solution and custom-made mixes

## Technology

All the processes have an automated control by dedicated Computer Aided Manufacturing (CAM) software and an SQL-based data collecting system. The software systems control the following:

- Automated calculations
- Barcode-driven movement
- Computer control of balances and other hardware
- Control of incoming raw materials
- Manufacturing and control of intermediate solutions (bulks)
- Preparation of custom-made solutions (software determined weights and controlled gravimetric processes on the scales)
- Control of the end product by AAS, ICP, IC, GC, GC-MS, HPLC and LC-MS
- Evaluation of the final data, acquired by both gravimetric and instrumental analysis and calculation of certified values and uncertainties

## Quality

Each standard is rigorously tested and analysed as a finished product and accompanied with a Certificate of Analysis and material safety data documentation.

Our products are manufactured under a quality management system according to ISO 9001 requirements. The laboratory analysis follows ISO 17025 and ISO Guide 34 quality standards.

Our ISO 9001 certification is available on our website and ISO 17025 Certificate of Accreditation is available on demand.

Our Certificates of Analysis are delivered with each solution or mix and are also available on our website.





## SERVICES

### CUSTOM-MADE PRODUCTS

#### Custom-made products

Sometimes it is difficult to find a standard that fits with customer requirements. For this reason, we offer custom-made products. The custom-made products are manufactured under the same conditions as the products included in the catalogue and according to ISO 17025 and ISO 17034.

If you are interested in this service, please ask us!



## SPECIAL PRODUCTS

### PESTICIDE MIX

#### Pesticide mix according to official EU Regulation

The European Commission has adopted a regulation (533/2019) by which member states take and analyse samples for a set of pesticides during 2020 through 2022. The list of pesticides to be analysed includes more than 100 compounds. The list of pesticides varies according to the type of sample and year. These pesticides must be analysed in and on food of plant and animal origin in Member States of the European Union. Scharlab offers the suitable mix for each year and each type of sample, please ask us!

**Save in solvents, time and labour.**



## Product Documentation

Technical Data Sheet (TDS), Certificate of Analysis (CoA) and Safety Data Sheet (SDS) are available for each product. All of them can be downloaded instantly and easily from our website: [www.scharlab.com](http://www.scharlab.com).

We provide complete Safety Data Sheets (SDS). They contain data regarding the physical and chemical properties of the product, necessary precautions for handling, toxicological information, aspects related to the environment and waste disposal, storage and transport. The latest version of all our SDS can be downloaded from our website: [www.scharlab.com](http://www.scharlab.com).

The Technical Data Sheet provides the guaranteed values of our product specifications, among others. On the other hand, the Certificate of Analysis provides the real values of these specifications, guaranteeing the quality of every manufactured product. Our TDS are divided into the following parts:

## Safety Data Sheet (SDS)



**Scharlab** Safety data sheet according to 1907/2006/EC, Article 31 (REACH) Page 1/11  
 Printing date 03.07.2015 Revision: 03.07.2015

**SECTION 1: Identification of the substance/mixture and of the company undertaking**

- 1.1 Product identifier
- Trade name: Mix of 194 compounds according to EU regulation for pesticide analysis using multiresidue methods
- Article number: PSTEUR0194
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
- 1.3 Details of the supplier of the safety data sheet

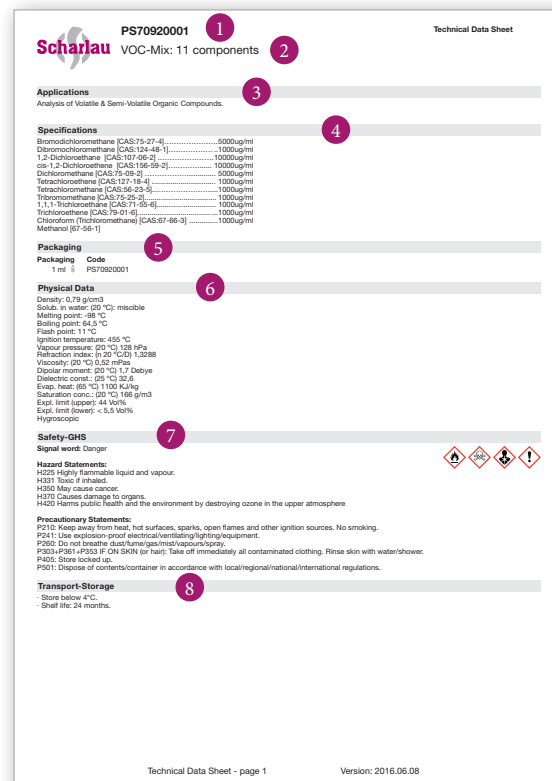
**SECTION 2: Hazards identification**

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008
- GHS02 flame
- Flam. Liq. 2 H225 Highly flammable liquid and vapour.
- GHS09 environment
- Aquatic Acute 1 H400 Very toxic to aquatic life.
- Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.
- GHS07
- Acute Tox. 4 H312 Harmful in contact with skin.
- Acute Tox. 4 H332 Harmful if inhaled.
- Eye Irrit. 2 H319 Causes serious eye irritation.

**SECTION 2.2 Label elements**

Labeling according to Regulation (EC) No 1272/2008  
 The product is classified and labeled according to the CLP regulation. (Cont'd. on page 2)

## Technical Data Sheet (TDS)



**Scharlab** PS70920001 Technical Data Sheet  
 VOC-Mix: 11 components

**Applications**

Analysis of Volatile & Semi-Volatile Organic Compounds.

**Specifications**

Bromodichloromethane [CAS:75-27-6]	5000µg/ml
Dibromochloromethane [CAS:124-48-1]	1000µg/ml
1,2-Dichloroethane [CAS:107-66-3]	10000µg/ml
cis-1,2-Dichloroethane [CAS:196-59-2]	10000µg/ml
Dichloromethane [CAS:75-69-3]	5000µg/ml
Tetrachloroethane [CAS:127-18-4]	1000µg/ml
Tetrachloroethane [CAS:55-23-9]	1000µg/ml
Trichloroethane [CAS:75-35-9]	1000µg/ml
1,1,1-Trichloroethane [CAS:71-55-6]	1000µg/ml
Trichloroethene [CAS:79-01-6]	1000µg/ml
Chloroform (Trichloromethane) [CAS:67-66-3]	1000µg/ml
Methanol [67-56-1]	

**Packaging**

Packaging	Code
1 m <sup>3</sup>	PS70920001

**Physical Data**

Density: 0,79 g/cm<sup>3</sup>  
 Solub. in water (20 °C): miscible  
 Melting point: -98 °C  
 Boiling point: 34,5 °C  
 Flash point: 11 °C  
 Ignition temperature: 455 °C  
 Vapour pressure: (20 °C) 128 hPa  
 Refractive index: (20 °C) 1,2528  
 Viscosity: (20 °C) 0,52 mPa·s  
 Dipole moment: (20 °C) 1,7 Debye  
 Dielectric const.: (25 °C) 32,6  
 Evap. heat: (25 °C) 1100 kJ/kg  
 Saturation conc.: (20 °C) 166 g/m<sup>3</sup>  
 Expl. limit (upper): 44 Vol%  
 Expl. limit (lower): < 5,5 Vol%  
 Hydroscopic

**Safety-GHS**

Signal word: Danger

**Hazard Statements:**

- H225 Highly flammable liquid and vapour.
- H312 Toxic, if inhaled.
- H350 May cause cancer.
- H423 Causes damage to organs.
- H420 Harms public health and the environment by destroying ozone in the upper atmosphere.

**Precautionary Statements:**

- P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241: Use explosion-proof electrical/ventilating/lighting/equipment.
- P261: Do not breathe dust/fume/gas/mist/vapour/spray.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P403: Store locked up.
- P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

**Transport-Storage**

Store below 4 °C.  
 Shelf life: 24 months.

Technical Data Sheet - page 1 Version: 2016.06.08

- 1 Catalogue number
- 2 Product name
- 3 Product applications
- 4 Product specifications
- 5 Packaging
- 6 Physical data
- 7 Safety data
- 8 Transport-Storage

# CERTIFICATE OF ANALYSIS

## Certificate of Analysis

Scharlab's Certificates of Analysis for organic standards show the certified values and uncertainties as determined in accordance with ISO Guide 31 and ISO Guide 35.

The Certificates of Analysis provide full traceability. The uncertainties refer to each of the components separately and not to the uncertainty of the mixture. We also include some recommended conditions for storage and use.

A gravimetric certificate is provided with all standard mixtures, with the following information:

- Purity of the compound
- Source of raw material with lot number - concentration

The expiry dates are printed on both the solution and the Certificate of Analysis.

**Scharlab S.L.**  
 Gato Pérez, 33, Pol.Ind. Mas d'en Cisa  
 08181 Santiment  
 T: +34937456400  
 E: helpdesk@scharlab.com

**CERTIFICATE OF ANALYSIS**

Product: Organic Standard Solution of Ethylene Oxide  
 (CAS:75-21-8) 1000mg/l in Methanol

Batch: 204263  
 Quality Release Date: 09.01.2020  
 Expiry Date: 09.02.2022

**P51478**

Component	Chem. Formula	CAS No.	Certified Value / Uncertainty (mg/l)
Ethylene Oxide	C <sub>2</sub> H <sub>4</sub> O	75-21-8	1044.7 ± 11.6

Density: 0.7831 g/cm<sup>3</sup> at 21.3 °C

**Preparation**  
 This certified reference material is produced by gravimetric measurement and dissolving the individual substances in Methanol HPLC/DC grade.  
 The instructions of ISO 17034 were considered for the preparation of this solution.

**Contains**

Ethylene Oxide	97.7% (41288857)
----------------	------------------

**Traceability**  
 The certified value was obtained CRM's calibration procedure (MCP 5.15.1.2).  
 The metrological traceability is ensured through gravimetric measurement and dissolving the certified reference material from accredited according to ISO/IEC 17025 and/or ISO 17034 laboratories/producers and traceable to SI.

**Uncertainty**  
 The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor K=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with EA 402.

**Measurement**  
 Batch value certified at the time of measurement. The certified value is calculated by means of both gravimetric preparation and instrumental analysis.


**Hazardous**  
 The normal laboratory safety precautions should be observed when working with this standard.  
 Please refer to Safety Data Sheet (SDS) to further details.

**Homogeneity**  
 This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous.  
 To ensure sufficient homogeneity of the sample prior to use, mix thoroughly by shaking.

**Storage and use**  
 For ILC, GC/FID, GC/ICD, GC/ECD, GC/MS, HPLC/UV and HPLC/MS calibration.  
 If stored unopened in the original packaging and store in a refrigerator at temperatures between 2°C to 8°C. This solution is stable for 24 months from the release date. Once the bottle is opened use shortly after opening to avoid concentration changes due to evaporation.  
 This standard can be used directly or can be diluted in an appropriate high-purity matrix.  
 Obtained concentration (in mg/l) after dilution is a result from the multiplication of certified value of CRM concentration and the CRM's volume used for dilution and divided into the final volume used for dilution.

This Product is calibrated by laboratory accredited to ISO 17034 and ISO/IEC 17025

This document is designed and the certified value(s) and uncertainty(ies) are determined in accordance with ISO Guide 31, ISO Guide 35 and Eurachem/CITAC Guides.  
 The product is produced by laboratory accredited to ISO 17034 and ISO/IEC 17025

Signature:  (Walter Armada / QC Manager)

This certificate does not release the user from their control upon receipt of the goods. You can get a copy of any of our COA from our website: [www.scharlab.com](http://www.scharlab.com)

**Additional Information**  
**Gravimetric Data**

Component	Purity %	Source Lot No	Weighted quantity, g	Final quantity, kg/l <sup>1</sup>	Batch Standard Solution Lot No	Concentration mg/kg	Expiry ID
Ethylene Oxide	97.7	41288857	0.2987	7.6663	91264405	38896	AS
		21565891	0.6856	19.5775	92554780	133411	DX



# PRODUCT LABEL

## Understanding our label



- 1 Product name
- 2 Order number
- 3 Serial number
- 4 Batch number
- 5 Expiry date
- 6 CAS number
- 7 QR code
- 8 Hazard Pictograms
- 9 Product use
- 10 Manufacturing country
- 11 Scharlab logo
- 12 Scharlab S.L. data
- 13 Website



# EPA METHODS

## EPA METHODS 500 FOR DRINKING WATER

The 500 Series product line contains standards used in proposed and promulgated methods for the identification and quantification of organic compounds in drinking water. The organic compounds listed in the various methods include volatile organic compounds (VOCs), pesticides, synthetic organic compounds (SOCs), and trihalomethane disinfection by-products. Analytical techniques used in the identification and quantification of the above compounds include gas chromatography with selective detectors (PID, ELCD, ECD, FID, NPD, FPD), gas chromatography/mass spectrometry and high performance liquid chromatography.

## EPA 501 Trihalomethane Analysis

Trihalomethane Analysis. Method 501 is a purge and trap method for measurement of total trihalomethanes in raw source water, or drinking water in any stage of treatment, and in finished drinking water by gas chromatograph.

### Trihalomethanes Standard Solution - 4 components

DESCRIPTION	CONCENTRATION
Bromodichloromethane CAS: [75-27-4]	200 µg/ml
Tribromomethane (Bromoform) CAS: [75-25-2]	200 µg/ml

DESCRIPTION	CONCENTRATION
Dibromochloromethane CAS: [124-48-1]	200 µg/ml
Chloroform CAS: [67-66-3]	200 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50790001**

DESCRIPTION	CONCENTRATION
Bromodichloromethane CAS: [75-27-4]	2000 µg/ml
Tribromomethane (Bromoform) CAS: [75-25-2]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Dibromochloromethane CAS: [124-48-1]	2000 µg/ml
Chloroform CAS: [67-66-3]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51330001**

DESCRIPTION	CONCENTRATION
Bromodichloromethane (Dichlorobromomethane) CAS: [75-27-4]	5000 µg/ml
Tribromomethane CAS: [75-25-2]	5000 µg/ml

DESCRIPTION	CONCENTRATION
Dibromochloromethane CAS: [124-48-1]	5000 µg/ml
Chloroform CAS: [67-66-3]	5000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50800001**

See complete range of standards in this QR code



Complete range of standards classified according to ASTM Methods, ISO Methods, EN Standards, contaminant standards, single component solutions and Neat standards.

## EPA 502 Volatile Organic Compounds in Water

Volatile Organic Compounds in Water. EPA Method 502.1 identifies volatile halogenated organic compounds, in water, by purge and trap gas chromatography. EPA Method 502.2 is an enhanced and expanded version 502.1. It is a general purpose method for the identification and measurement of purgeable volatile organic compounds in finished drinking water, raw source water, or drinking water in any treatment stage.

### Aromatic Halocarbons Mixture - 9 components

DESCRIPTION	CONCENTRATION
Bromobenzene CAS: [108-86-1]	200 µg/ml
Chlorobenzene CAS: [108-90-7]	200 µg/ml
2-Chlorotoluene CAS: [95-49-8]	200 µg/ml
4-Chlorotoluene CAS: [106-43-4]	200 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	200 µg/ml

DESCRIPTION	CONCENTRATION
1,3-Dichlorobenzene CAS: [541-73-1]	200 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	200 µg/ml
1,2,3-Trichlorobenzene CAS: [87-61-6]	200 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	200 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Methanol
- Art. No.: **PS51390001**

### Aromatic Hydrocarbons Mixture - 16 components

DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	200 µg/ml
n-Butylbenzene CAS: [104-51-8]	200 µg/ml
sec-Butylbenzene CAS: [135-98-8]	200 µg/ml
tert-Butylbenzene CAS: [98-06-6]	200 µg/ml
Ethylbenzene CAS: [100-41-4]	200 µg/ml
Isopropylbenzene CAS: [98-82-8]	200 µg/ml
4-Isopropyltoluene CAS: [99-87-6]	200 µg/ml
Naphthalene CAS: [91-20-3]	200 µg/ml

DESCRIPTION	CONCENTRATION
n-Propylbenzene CAS: [103-65-1]	200 µg/ml
Styrene CAS: [100-42-5]	200 µg/ml
Toluene CAS: [108-88-3]	200 µg/ml
1,2,4-Trimethylbenzene CAS: [95-63-6]	200 µg/ml
1,3,5-Trimethylbenzene CAS: [108-67-8]	200 µg/ml
m-Xylene CAS: [108-38-3]	200 µg/ml
o-Xylene CAS: [95-47-6]	200 µg/ml
p-Xylene CAS: [106-42-3]	200 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Methanol
- Art. No.: **PS51380001**

### Aromatic Volatile Organics Mixture - 25 components

DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	100 µg/ml
Bromobenzene CAS: [108-86-1]	100 µg/ml
n-Butylbenzene CAS: [104-51-8]	100 µg/ml
sec-Butylbenzene CAS: [135-98-8]	100 µg/ml
tert-Butylbenzene CAS: [98-06-6]	100 µg/ml
Chlorobenzene CAS: [108-90-7]	100 µg/ml
2-Chlorotoluene CAS: [95-49-8]	100 µg/ml
4-Chlorotoluene CAS: [106-43-4]	100 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	100 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	100 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	100 µg/ml
Ethylbenzene CAS: [100-41-4]	100 µg/ml
Isopropylbenzene CAS: [98-82-8]	100 µg/ml

DESCRIPTION	CONCENTRATION
4-Isopropyltoluene CAS: [99-87-6]	100 µg/ml
Naphthalene CAS: [91-20-3]	100 µg/ml
n-Propylbenzene CAS: [103-65-1]	100 µg/ml
Styrene CAS: [100-42-5]	100 µg/ml
Toluene CAS: [108-88-3]	100 µg/ml
1,2,3-Trichlorobenzene CAS: [87-61-6]	100 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	100 µg/ml
1,2,4-Trimethylbenzene CAS: [95-63-6]	100 µg/ml
1,3,5-Trimethylbenzene CAS: [108-67-8]	100 µg/ml
o-Xylene CAS: [95-47-6]	100 µg/ml
m-Xylene CAS: [108-38-3]	100 µg/ml
p-Xylene CAS: [106-42-3]	100 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Methanol
- Art. No.: **PS51400001**

DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	200 µg/ml
Bromobenzene CAS: [108-86-1]	200 µg/ml
n-Butylbenzene CAS: [104-51-8]	200 µg/ml
sec-Butylbenzene CAS: [135-98-8]	200 µg/ml
tert-Butylbenzene CAS: [98-06-6]	200 µg/ml
Chlorobenzene CAS: [108-90-7]	200 µg/ml
2-Chlorotoluene CAS: [95-49-8]	200 µg/ml
4-Chlorotoluene CAS: [106-43-4]	200 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	200 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	200 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	200 µg/ml
Ethylbenzene CAS: [100-41-4]	200 µg/ml
Isopropylbenzene CAS: [98-82-8]	200 µg/ml

DESCRIPTION	CONCENTRATION
4-Isopropyltoluene CAS: [99-87-6]	200 µg/ml
Naphthalene CAS: [91-20-3]	200 µg/ml
n-Propylbenzene CAS: [103-65-1]	200 µg/ml
Styrene CAS: [100-42-5]	200 µg/ml
Toluene CAS: [108-88-3]	200 µg/ml
1,2,3-Trichlorobenzene CAS: [87-61-6]	200 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	200 µg/ml
1,2,4-Trimethylbenzene CAS: [95-63-6]	200 µg/ml
1,3,5-Trimethylbenzene CAS: [108-67-8]	200 µg/ml
o-Xylene CAS: [95-47-6]	200 µg/ml
m-Xylene CAS: [108-38-3]	200 µg/ml
p-Xylene CAS: [106-42-3]	200 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Methanol
- Art. No.: **PS51410001**



DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	2000 µg/ml
Bromobenzene CAS: [108-86-1]	2000 µg/ml
n-Butylbenzene CAS: [104-51-8]	2000 µg/ml
sec-Butylbenzene CAS: [135-98-8]	2000 µg/ml
tert-Butylbenzene CAS: [98-06-6]	2000 µg/ml
Chlorobenzene CAS: [108-90-7]	2000 µg/ml
2-Chlorotoluene CAS: [95-49-8]	2000 µg/ml
4-Chlorotoluene CAS: [106-43-4]	2000 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	2000 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	2000 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	2000 µg/ml
Ethylbenzene CAS: [100-41-4]	2000 µg/ml
Isopropylbenzene CAS: [98-82-8]	2000 µg/ml

DESCRIPTION	CONCENTRATION
4-Isopropyltoluene CAS: [99-87-6]	2000 µg/ml
Naphthalene CAS: [91-20-3]	2000 µg/ml
n-Propylbenzene CAS: [103-65-1]	2000 µg/ml
Styrene CAS: [100-42-5]	2000 µg/ml
Toluene CAS: [108-88-3]	2000 µg/ml
1,2,3-Trichlorobenzene CAS: [87-61-6]	2000 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	2000 µg/ml
1,2,4-Trimethylbenzene CAS: [95-63-6]	2000 µg/ml
1,3,5-Trimethylbenzene CAS: [108-67-8]	2000 µg/ml
o-Xylene CAS: [95-47-6]	2000 µg/ml
m-Xylene CAS: [108-38-3]	2000 µg/ml
p-Xylene CAS: [106-42-3]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51420001

## Haloethanes Mixture - 14 components

DESCRIPTION	CONCENTRATION
Chloroethane CAS: [75-00-3]	200 µg/ml
1,2-Dibromoethane CAS: [106-93-4]	200 µg/ml
1,1-Dichloroethane CAS: [75-34-3]	200 µg/ml
1,2-Dichloroethane CAS: [107-06-2]	200 µg/ml
1,1-Dichloroethene CAS: [75-35-4]	200 µg/ml
cis-1,2-Dichloroethene CAS: [156-59-2]	200 µg/ml
trans-1,2-Dichloroethene CAS: [156-60-5]	200 µg/ml

DESCRIPTION	CONCENTRATION
1,1,1,2-Tetrachloroethane CAS: [630-20-6]	200 µg/ml
1,1,2,2-Tetrachloroethane CAS: [79-34-5]	200 µg/ml
Tetrachloroethene CAS: [127-18-4]	200 µg/ml
1,1,1-Trichloroethane CAS: [71-55-6]	200 µg/ml
1,1,2-Trichloroethane CAS: [79-00-5]	200 µg/ml
Trichloroethene CAS: [79-01-6]	200 µg/ml
Vinylchloride CAS: [75-01-4]	200 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51360001

## Halopropanes Mixture - 9 components

DESCRIPTION	CONCENTRATION
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	200 µg/ml
1,2-Dichloropropane CAS: [78-87-5]	200 µg/ml
1,3-Dichloropropane CAS: [142-28-9]	200 µg/ml
2,2-Dichloropropane CAS: [594-20-7]	200 µg/ml
1,1-Dichloropropene CAS: [563-58-6]	200 µg/ml

DESCRIPTION	CONCENTRATION
cis-1,3-Dichloropropene CAS: [10061-01-5]	200 µg/ml
trans-1,3-Dichloropropene CAS: [10061-02-6]	200 µg/ml
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	200 µg/ml
1,2,3-Trichloropropane CAS: [96-18-4]	200 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51370001

## VOC Gas Mixture - 6 components

DESCRIPTION	CONCENTRATION
Bromomethane CAS: [74-83-9]	2000 µg/ml
Chloroethane CAS: [75-00-3]	2000 µg/ml
Chloromethane CAS: [74-87-3]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Dichlorodifluoromethane CAS: [75-71-8]	2000 µg/ml
Fluorotrichloromethane (Trichlorofluoromethane) CAS: [75-69-4]	2000 µg/ml
Vinylchloride CAS: [75-01-4]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51150001

## VOC Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
2-Bromo-1-chloropropane CAS: [3017-95-6]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS50530001

DESCRIPTION	CONCENTRATION
1-Chloro-2-fluorobenzene CAS: [348-51-6]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51350001

DESCRIPTION	CONCENTRATION
Fluorobenzene CAS: [462-06-6]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51340001

DESCRIPTION	CONCENTRATION
1,4-Dichlorobutane CAS: [110-56-5]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS50550001

## EPA 503.1 Aromatics & Alkenes Mixture

Method 503.1 is applicable to the determination of various volatile aromatic and unsaturated organic compounds by purge and trap gas chromatography in finished drinking water, any raw source water, or drinking water in any treatment stage.

### ACs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
alpha,alpha,alpha-Trifluorotoluene CAS: [98-08-8]	2000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** **PS50560001**

### Aromatics & Alkenes Mixture - 28 components

DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	200 µg/ml
Bromobenzene CAS: [108-86-1]	200 µg/ml
n-Butylbenzene CAS: [104-51-8]	200 µg/ml
sec-Butylbenzene CAS: [135-98-8]	200 µg/ml
tert-Butylbenzene CAS: [98-06-6]	200 µg/ml
Chlorobenzene CAS: [108-90-7]	200 µg/ml
2-Chlorotoluene CAS: [95-49-8]	200 µg/ml
4-Chlorotoluene CAS: [106-43-4]	200 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	200 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	200 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	200 µg/ml
Ethylbenzene CAS: [100-41-4]	200 µg/ml
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	200 µg/ml
Isopropylbenzene CAS: [98-82-8]	200 µg/ml

DESCRIPTION	CONCENTRATION
4-Isopropyltoluene CAS: [99-87-6]	200 µg/ml
Naphthalene CAS: [91-20-3]	200 µg/ml
n-Propylbenzene CAS: [103-65-1]	200 µg/ml
Styrene CAS: [100-42-5]	200 µg/ml
Tetrachloroethene CAS: [127-18-4]	200 µg/ml
Toluene CAS: [108-88-3]	200 µg/ml
1,2,3-Trichlorobenzene CAS: [87-61-6]	200 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	200 µg/ml
Trichloroethene CAS: [79-01-6]	200 µg/ml
1,2,4-Trimethylbenzene CAS: [95-63-6]	200 µg/ml
1,3,5-Trimethylbenzene CAS: [108-67-8]	200 µg/ml
o-Xylene CAS: [95-47-6]	200 µg/ml
m-Xylene CAS: [108-38-3]	200 µg/ml
p-Xylene CAS: [106-42-3]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51110001**

DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	2000 µg/ml
Bromobenzene CAS: [108-86-1]	2000 µg/ml
n-Butylbenzene CAS: [104-51-8]	2000 µg/ml
sec-Butylbenzene CAS: [135-98-8]	2000 µg/ml
tert-Butylbenzene CAS: [98-06-6]	2000 µg/ml
Chlorobenzene CAS: [108-90-7]	2000 µg/ml
2-Chlorotoluene CAS: [95-49-8]	2000 µg/ml
4-Chlorotoluene CAS: [106-43-4]	2000 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	2000 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	2000 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	2000 µg/ml
Ethylbenzene CAS: [100-41-4]	2000 µg/ml
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	2000 µg/ml
Isopropylbenzene CAS: [98-82-8]	2000 µg/ml

DESCRIPTION	CONCENTRATION
4-Isopropyltoluene CAS: [99-87-6]	2000 µg/ml
Naphthalene CAS: [91-20-3]	2000 µg/ml
n-Propylbenzene CAS: [103-65-1]	2000 µg/ml
Styrene CAS: [100-42-5]	2000 µg/ml
Tetrachloroethene CAS: [127-18-4]	2000 µg/ml
Toluene CAS: [108-88-3]	2000 µg/ml
1,2,3-Trichlorobenzene CAS: [87-61-6]	2000 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	2000 µg/ml
Trichloroethene CAS: [79-01-6]	2000 µg/ml
1,2,4-Trimethylbenzene CAS: [95-63-6]	2000 µg/ml
1,3,5-Trimethylbenzene CAS: [108-67-8]	2000 µg/ml
o-Xylene CAS: [95-47-6]	2000 µg/ml
m-Xylene CAS: [108-38-3]	2000 µg/ml
p-Xylene CAS: [106-42-3]	2000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51430001**

### Halocarbons Mixture - 12 components

DESCRIPTION	CONCENTRATION
Bromobenzene CAS: [108-86-1]	200 µg/ml
Chlorobenzene CAS: [108-90-7]	200 µg/ml
2-Chlorotoluene CAS: [95-49-8]	200 µg/ml
4-Chlorotoluene CAS: [106-43-4]	200 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	200 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	200 µg/ml

DESCRIPTION	CONCENTRATION
1,4-Dichlorobenzene CAS: [106-46-7]	200 µg/ml
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	200 µg/ml
Tetrachloroethene CAS: [127-18-4]	200 µg/ml
1,2,3-Trichlorobenzene CAS: [87-61-6]	200 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	200 µg/ml
Trichloroethene CAS: [79-01-6]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51440001**

## EPA 504 EDB and DBCP in water by microextraction and GC

Method 504 is applicable to the determination of 1,2-Dibromoethane (EDB) and 1,2-Dibromo-3-chloropropane (DBCP) in finished drinking water, raw source water, or drinking water in any treatment stage by microextraction and gas chromatography.

### EDB/DBCP Mixture - 2 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	2000 µg/ml	1,2-Dibromoethane CAS: [106-93-4]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS5090001

## EPA 504.1 EDB and DBCP in water by microextraction and GC

Method 504.1 is applicable to the determination of 1,2-Dibromoethane (EDB) and 1,2-Dibromo-3-chloropropane (DBCP) in finished drinking water, raw source water, or drinking water in any treatment stage by microextraction and gas chromatography.

### Standard Solution - 3 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	200 µg/ml	1,2,3-Trichloropropane CAS: [96-18-4]	200 µg/ml
1,2-Dibromoethane CAS: [106-93-4]	200 µg/ml		

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS5140001

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	2000 µg/ml	1,2,3-Trichloropropane CAS: [96-18-4]	2000 µg/ml
1,2-Dibromoethane CAS: [106-93-4]	2000 µg/ml		

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51450001

## EPA 505 Organochlorine Pesticides and PCB Products in Water by Microextraction and GC

Method 505 is applicable to the determination of organohalide pesticides and commercial polychlorinated biphenyl (PCB) products in finished drinking water, during intermediate stages of treatment, and raw source water, by microextraction and gas chromatography.

### NCC Standard Solution - 8 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
Atrazine CAS: [1912-24-9]	100 µg/ml	Hexachlorocyclopentadiene CAS: [77-47-4]	100 µg/ml
cis-Chlordane CAS: [5103-71-9]	100 µg/ml	cis-Nonachlor CAS: [5103-73-1]	100 µg/ml
trans-Chlordane CAS: [5103-74-2]	100 µg/ml	trans-Nonachlor CAS: [39765-80-5]	100 µg/ml
Heptachlor CAS: [76-44-8]	100 µg/ml	Simazine CAS: [122-34-9]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51470001

### OCs / NCC Standard Solution - 12 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
Alachlor CAS: [15972-60-8]	50 µg/ml	Heptachlor CAS: [76-44-8]	20 µg/ml
Aldrin CAS: [309-00-2]	20 µg/ml	Heptachlor-exo-epoxide CAS: [1024-57-3]	20 µg/ml
Atrazine CAS: [1912-24-9]	500 µg/ml	Hexachlorobenzene CAS: [118-74-1]	10 µg/ml
Gamma-HCH (Lindane) CAS: [58-89-9]	20 µg/ml	Hexachlorocyclopentadiene CAS: [77-47-4]	20 µg/ml
Dieldrin CAS: [60-57-1]	20 µg/ml	Methoxychlor (DMTD) CAS: [72-43-5]	200 µg/ml
Endrin CAS: [72-20-8]	20 µg/ml	Simazine CAS: [122-34-9]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS50640001

### OCs Instrument Performance Check Solution - 1 component

DESCRIPTION	CONCENTRATION
Endrin CAS: [72-20-8]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS50190001

DESCRIPTION	CONCENTRATION
Endrin ketone CAS: [53494-70-5]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS50200001

### OCs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Toxaphene (Camphechlor) CAS: [8001-35-2]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50240001**

### Organochlorine Pesticides Mixture - 9 components

DESCRIPTION	CONCENTRATION
Alachlor CAS: [15972-60-8]	100 µg/ml
Aldrin CAS: [309-00-2]	100 µg/ml
Dieldrin CAS: [60-57-1]	100 µg/ml
Endrin CAS: [72-20-8]	100 µg/ml
Heptachlor CAS: [76-44-8]	100 µg/ml

DESCRIPTION	CONCENTRATION
Heptachlor-exo-epoxide CAS: [1024-57-3]	100 µg/ml
Hexachlorobenzene CAS: [118-74-1]	100 µg/ml
Gamma-HCH (Lindane) CAS: [58-89-9]	100 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Toluene
- **Art. No.:** **PS51460001**

### PCBs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Aroclor 1016 CAS: [12674-11-2]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51480001**

DESCRIPTION	CONCENTRATION
Aroclor 1221 CAS: [11104-28-2]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51490001**

DESCRIPTION	CONCENTRATION
Aroclor 1232 CAS: [11141-16-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51500001**

DESCRIPTION	CONCENTRATION
Aroclor 1242 CAS: [53469-21-9]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51510001**

DESCRIPTION	CONCENTRATION
Aroclor 1248 CAS: [12672-29-6]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51520001**

DESCRIPTION	CONCENTRATION
Aroclor 1254 CAS: [11097-69-1]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51530001**

DESCRIPTION	CONCENTRATION
Aroclor 1260 CAS: [11096-82-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51540001**

### Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Chlordane (technical) CAS: [57-74-9]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50160001**

### Standard Solution - 16 components

DESCRIPTION	CONCENTRATION
Acenaphthene CAS: [83-32-9]	100 µg/ml
Acenaphthylene CAS: [208-96-8]	100 µg/ml
Anthracene CAS: [120-12-7]	100 µg/ml
Benzo(a)anthracene CAS: [56-55-3]	100 µg/ml
Benzo(a)pyrene CAS: [50-32-8]	100 µg/ml
Benzo(b)fluoranthene CAS: [205-99-2]	100 µg/ml
Benzo(g,h,i)perylene CAS: [191-24-2]	100 µg/ml
Benzo(k)fluoranthene CAS: [207-08-9]	100 µg/ml

DESCRIPTION	CONCENTRATION
Chrysene CAS: [218-01-9]	100 µg/ml
Dibenzo(a,c)anthracene CAS: [215-58-7]	100 µg/ml
Fluoranthene CAS: [206-44-0]	100 µg/ml
Fluorene CAS: [86-73-7]	100 µg/ml
Indeno(1,2,3-c,d)pyrene CAS: [193-39-5]	100 µg/ml
Naphthalene CAS: [91-20-3]	100 µg/ml
Phenanthrene CAS: [85-01-8]	100 µg/ml
Pyrene CAS: [129-00-0]	100 µg/ml

- **Vol.** 5ml
- **Packaging:** Ampoule
- **Solvent:** Toluene
- **Art. No.:** **PS51320005**

## EPA 506 Phthalate and Adipate

Phthalate and Adipate. Method 506 describes a procedure for the determination of certain phthalate and adipate esters in drinking waters by liquid/liquid or liquid/solid extraction.

### Phthalates Standard Solution - 7 components

DESCRIPTION	CONCENTRATION
Adipic acid-bis-2-ethylhexyl ester CAS: [103-23-1]	1000 µg/ml
Phthalic acid,bis-2-ethylhexylester CAS: [117-81-7]	1000 µg/ml
Phthalic acid, benzylbutyl ester CAS: [85-68-7]	1000 µg/ml
Phthalic acid, bis-butyl ester CAS: [84-74-2]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Phthalic acid, bis-ethyl ester CAS: [84-66-2]	1000 µg/ml
Phthalic acid, bis-methyl ester CAS: [131-11-3]	1000 µg/ml
Phthalic acid, bis-1-octyl ester CAS: [117-84-0]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS50330001**

DESCRIPTION	CONCENTRATION
Adipic acid-bis-2-ethylhexyl ester CAS: [103-23-1]	1200 µg/ml
Phthalic acid,bis-2-ethylhexylester CAS: [117-81-7]	250 µg/ml
Phthalic acid, benzylbutyl ester CAS: [85-68-7]	250 µg/ml
Phthalic acid, bis-butyl ester CAS: [84-74-2]	100 µg/ml

DESCRIPTION	CONCENTRATION
Phthalic acid, bis-ethyl ester CAS: [84-66-2]	100 µg/ml
Phthalic acid, bis-methyl ester CAS: [131-11-3]	100 µg/ml
Phthalic acid, bis-1-octyl ester CAS: [117-84-0]	650 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50340001**

## EPA 507 Nitrogen and Phosphorus containing pesticides

Nitrogen and Phosphorus containing pesticides. Method 507 is applicable to the determination of Nitrogen and Phosphorous containing pesticides in ground water and finishing drinking water by gas chromatography.

### NCC / OPP Laboratory performance check mixture - 6 components

DESCRIPTION	CONCENTRATION
Atrazine CAS: [1912-24-9]	15 µg/ml
Bromacil CAS: [314-40-9]	500 µg/ml
1,3-Dimethyl-2-nitrobenzene CAS: [81-20-9]	250 µg/ml

DESCRIPTION	CONCENTRATION
Prometon CAS: [1610-18-0]	30 µg/ml
Triphenylphosphate CAS: [115-86-6]	250 µg/ml
Vernolate CAS: [1929-77-7]	5 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51060001**

### NCC / OPP Standard Solution - 10 components

DESCRIPTION	CONCENTRATION
Alachlor CAS: [15972-60-8]	1000 µg/ml
Atraton CAS: [1610-17-9]	1000 µg/ml
Bromacil CAS: [314-40-9]	1000 µg/ml
Butylate CAS: [2008-41-5]	1000 µg/ml
Chlorpropham CAS: [101-21-3]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Hexazinone CAS: [51235-04-2]	1000 µg/ml
Molinate CAS: [2212-67-1]	1000 µg/ml
Propyzamide (Pronamide) CAS: [23950-58-5]	1000 µg/ml
Tetrachlorvinphos CAS: [22248-79-9]	1000 µg/ml
Tricyclazole CAS: [41814-78-2]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51070001**

### NCC / OPP Standard Solution - 2 components

DESCRIPTION	CONCENTRATION
Simazine CAS: [122-34-9]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Paraoxon-methyl CAS: [950-35-6]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS50880001**

### NCC / OPP Standard Solution - 6 components

DESCRIPTION	CONCENTRATION
Ametryn CAS: [834-12-8]	1000 µg/ml
Cycloate CAS: [1134-23-2]	1000 µg/ml
Disulfoton CAS: [298-04-4]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Fenamiphos CAS: [22224-92-6]	1000 µg/ml
Merphos CAS: [150-50-5]	1000 µg/ml
Prometon CAS: [1610-18-0]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51030001**

### NCC / OPP Standard Solution - 8 components

DESCRIPTION	CONCENTRATION
Dichlorvos CAS: [62-73-7]	1000 µg/ml
Fenarimol CAS: [60168-88-9]	1000 µg/ml
Fluridone CAS: [59756-60-4]	1000 µg/ml
Napropamide CAS: [15299-99-7]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Pebulate CAS: [1114-71-2]	1000 µg/ml
Simetryn CAS: [1014-70-6]	1000 µg/ml
Tebuthiuron CAS: [34014-18-1]	1000 µg/ml
Terbacil CAS: [5902-51-2]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51160001**

DESCRIPTION	CONCENTRATION
Propachlor CAS: [1918-16-7]	1000 µg/ml
Trifluralin CAS: [1582-09-8]	1000 µg/ml
Bentfluralin CAS: [1861-40-1]	1000 µg/ml
Profluralin CAS: [26399-36-0]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Isopropalin CAS: [33820-53-0]	1000 µg/ml
Pendimethalin CAS: [40487-42-1]	1000 µg/ml
Oxadiazon CAS: [19666-30-9]	1000 µg/ml
Oxyfluorfen CAS: [42874-03-3]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS50740001**

### NCC / OPP Standard Solution - 9 components

DESCRIPTION	CONCENTRATION
Atrazine CAS: [1912-24-9]	1000 µg/ml
Diphenamid CAS: [957-51-7]	1000 µg/ml
EPTC CAS: [759-94-4]	1000 µg/ml
Ethoprophos CAS: [13194-48-4]	1000 µg/ml
Mevinphos CAS: [7786-34-7]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Prometryn CAS: [7287-19-6]	1000 µg/ml
Propazine CAS: [139-40-2]	1000 µg/ml
Terbutryn CAS: [886-50-0]	1000 µg/ml
Triadimefon CAS: [43121-43-3]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51040001**

DESCRIPTION	CONCENTRATION
Butachlor CAS: [23184-66-9]	1000 µg/ml
Carboxin CAS: [5234-68-4]	1000 µg/ml
Diazinon CAS: [333-41-5]	1000 µg/ml
Metolachlor CAS: [51218-45-2]	1000 µg/ml
Metribuzin CAS: [21087-64-9]	1000 µg/ml

DESCRIPTION	CONCENTRATION
MGK 264 CAS: [113-48-4]	1000 µg/ml
Norflurazon CAS: [27314-13-2]	1000 µg/ml
Terbufos CAS: [13071-79-9]	1000 µg/ml
Vernolate CAS: [1929-77-7]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51050001**

### NCC Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Simazine CAS: [122-34-9]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS50750001**

### NCC Surrogate Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
1,3-Dimethyl-2-nitrobenzene CAS: [81-20-9]	250 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS50250001**

### OPP Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Triphenylphosphate (Triphenyl phosphate) CAS: [115-86-6]	500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51250001**

### OPP Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Tribufos (DEF) CAS: [78-48-8]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS50830001**



## EPA 508 Chlorinated pesticides and PCBs

Chlorinated pesticides and PCBs. Method 508 is applicable to the determination of chlorinated pesticides in ground water and finished water by gas chromatography with an electron capture detector. Method 508.1 is applicable to the determination of chlorinated pesticides, herbicides, and organohalides in ground water and drinking water in any treatment stage using extraction and electron-capture detector gas chromatography. Method 508A is applicable for screening of Polychlorinated Biphenyls (PCBs) by gas chromatography in raw source water or drinking water in any treatment stage.

### OCs Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Quintozene (Pentachloronitrobenzene) CAS: [82-68-8]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS53710001**

### OCs Laboratory Performance Check Solution - 4 components

DESCRIPTION	CONCENTRATION
Delta-HCH CAS: [319-86-8]	40 µg/ml
Chlorothalonil CAS: [1897-45-6]	50 µg/ml

DESCRIPTION	CONCENTRATION
Chlorpyrifos CAS: [2921-88-2]	2 µg/ml
Chlorthal-dimethyl CAS: [1861-32-1]	50 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS50700001**

### OCs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Chlordane (technical) CAS: [57-74-9]	2500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS53640001**

DESCRIPTION	CONCENTRATION
Toxaphene CAS: [8001-35-2]	2500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51580001**

### OCs Standard Solution - 12 components

DESCRIPTION	CONCENTRATION
cis-Chlordane (alpha-Chlordane) CAS: [5103-71-9]	1000 µg/ml
trans-Chlordane (Gamma-Chlordane) CAS: [5103-74-2]	1000 µg/ml
Chlorobenzilate CAS: [510-15-6]	1000 µg/ml
Chloroneb CAS: [2675-77-6]	1000 µg/ml
Chlorothalonil CAS: [1897-45-6]	1000 µg/ml
Chlorpyrifos CAS: [2921-88-2]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Chlorthal-dimethyl (DCPA) CAS: [1861-32-1]	1000 µg/ml
Etridiazole CAS: [2593-15-9]	2000 µg/ml
Hexachlorobenzene CAS: [118-74-1]	1000 µg/ml
Propachlor CAS: [1918-16-7]	1000 µg/ml
Trifluralin CAS: [1582-09-8]	1000 µg/ml
Permethrin CAS: [52645-53-1]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51550001**

### OCs Standard Solution - 16 components

DESCRIPTION	CONCENTRATION
Alpha-HCH CAS: [319-84-6]	1000 µg/ml
Beta-HCH CAS: [319-85-7]	1000 µg/ml
Gamma-HCH (Lindane) CAS: [58-89-9]	1000 µg/ml
Delta-HCH CAS: [319-86-8]	1000 µg/ml
4,4 prime-DDD (TDE) CAS: [72-54-8]	1000 µg/ml
4-4 prime-DDE CAS: [72-55-9]	1000 µg/ml
4,4 prime-DDT CAS: [50-29-3]	1000 µg/ml
Dieldrin CAS: [60-57-1]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Endosulfan-alpha CAS: [959-98-8]	1000 µg/ml
Endosulfan-beta CAS: [33213-65-9]	1000 µg/ml
Endosulfan-total (sulfate) CAS: [1031-07-8]	1000 µg/ml
Endrin CAS: [72-20-8]	1000 µg/ml
Endrin aldehyde CAS: [7421-93-4]	1000 µg/ml
Heptachlor CAS: [76-44-8]	1000 µg/ml
Heptachlor-exo-epoxide CAS: [1024-57-3]	1000 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS50710001**

### OCs Standard Solution - 7 components

DESCRIPTION	CONCENTRATION
Alachlor CAS: [15972-60-8]	500 µg/ml
Atrazine CAS: [1912-24-9]	500 µg/ml
Cyanazine CAS: [21725-46-2]	500 µg/ml
Hexachlorocyclopentadiene CAS: [77-47-4]	500 µg/ml

DESCRIPTION	CONCENTRATION
Metolachlor CAS: [51218-45-2]	500 µg/ml
Metribuzin CAS: [21087-64-9]	500 µg/ml
Simazine CAS: [122-34-9]	500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS51560001**

### OCs Standard Solution - 9 components

DESCRIPTION	CONCENTRATION
Chloroneb CAS: [2675-77-6]	1000 µg/ml
Chlorobenzilate CAS: [510-15-6]	1000 µg/ml
Chlorothalonil CAS: [1897-45-6]	1000 µg/ml
Chlorthal-dimethyl CAS: [1861-32-1]	1000 µg/ml
Hexachlorobenzene CAS: [118-74-1]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Permethrin CAS: [52645-53-1]	1000 µg/ml
Propachlor CAS: [1918-16-7]	1000 µg/ml
Etridiazole CAS: [2593-15-9]	1000 µg/ml
Trifluralin CAS: [1582-09-8]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51570001**

### PCBs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Aroclor 1016 CAS: [12674-11-2]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS53650001**

DESCRIPTION	CONCENTRATION
Aroclor 1221 CAS: [11104-28-2]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS53660001**

DESCRIPTION	CONCENTRATION
Aroclor 1242 CAS: [53469-21-9]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS53670001**

DESCRIPTION	CONCENTRATION
Aroclor 1248 CAS: [12672-29-6]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS53680001**

DESCRIPTION	CONCENTRATION
Aroclor 1254 CAS: [11097-69-1]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS53690001**

DESCRIPTION	CONCENTRATION
Aroclor 1260 CAS: [11096-82-5]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS53700001**

## EPA 508.1 Chlorinated pesticides and PCBs

Chlorinated pesticides and PCBs. Method 508 is applicable to the determination of chlorinated pesticides in ground water and finished water by gas chromatography with an electron capture detector. Method 508.1 is applicable to the determination of chlorinated pesticides, herbicides, and organohalides in ground water and drinking water in any treatment stage using extraction and electron-capture detector gas chromatography. Method 508A is applicable for screening of Polychlorinated Biphenyls (PCBs) by gas chromatography in raw source water or drinking water in any treatment stage.

### Degradation Calibration Mixture - 2 components

DESCRIPTION	CONCENTRATION
4,4 prime-DDT CAS: [50-29-3]	200 µg/ml

DESCRIPTION	CONCENTRATION
Endrin CAS: [72-20-8]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51610001**

### Degradation Products Mixture - 4 components

DESCRIPTION	CONCENTRATION
4-4 prime-DDE CAS: [72-55-9]	200 µg/ml
4,4 prime-DDD (TDE) CAS: [72-54-8]	200 µg/ml

DESCRIPTION	CONCENTRATION
Endrin aldehyde CAS: [7421-93-4]	100 µg/ml
Endrin ketone CAS: [53494-70-5]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51620001**

### OCs / NCC Standard Solution - 19 components

DESCRIPTION	CONCENTRATION
Alachlor CAS: [15972-60-8]	100 µg/ml
Atrazine CAS: [1912-24-9]	100 µg/ml
Butachlor CAS: [23184-66-9]	100 µg/ml
cis-Chlordane (alpha-Chlordane) CAS: [5103-71-9]	100 µg/ml
trans-Chlordane (Gamma-Chlordane) CAS: [5103-74-2]	100 µg/ml
Chlorobenzilate CAS: [510-15-6]	100 µg/ml
Chloroneb CAS: [2675-77-6]	100 µg/ml
Chlorothalonil CAS: [1897-45-6]	100 µg/ml
Cyanazine CAS: [21725-46-2]	100 µg/ml
Chlorthal-dimethyl (DCPA) CAS: [1861-32-1]	100 µg/ml

DESCRIPTION	CONCENTRATION
Etridiazole CAS: [2593-15-9]	100 µg/ml
Hexachlorobenzene CAS: [118-74-1]	100 µg/ml
Hexachlorocyclopentadiene CAS: [77-47-4]	100 µg/ml
Metolachlor CAS: [51218-45-2]	100 µg/ml
Metribuzin CAS: [21087-64-9]	100 µg/ml
Permethrin CAS: [52645-53-1]	200 µg/ml
Propachlor CAS: [1918-16-7]	100 µg/ml
Simazine CAS: [122-34-9]	100 µg/ml
Trifluralin CAS: [1582-09-8]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Ethyl Acetate
- **Art. No.:** **PS51600001**

### OCs Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Quintozene (Pentachloronitrobenzene) CAS: [82-68-8]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51640001**

DESCRIPTION	CONCENTRATION
Quintozene (Pentachloronitrobenzene) CAS: [82-68-8]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS51650001**

DESCRIPTION	CONCENTRATION
Quintozene (Pentachloronitrobenzene) CAS: [82-68-8]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Ethyl Acetate
- **Art. No.:** **PS51660001**

### OCs Standard Solution - 17 components

DESCRIPTION	CONCENTRATION
Aldrin CAS: [309-00-2]	100 µg/ml
Alpha-HCH CAS: [319-84-6]	100 µg/ml
Beta-HCH CAS: [319-85-7]	100 µg/ml
Gamma-HCH (Lindane) CAS: [58-89-9]	100 µg/ml
Delta-HCH CAS: [319-86-8]	100 µg/ml
4,4 prime-DDD (TDE) CAS: [72-54-8]	100 µg/ml
4-4 prime-DDE CAS: [72-55-9]	100 µg/ml
4,4 prime-DDT CAS: [50-29-3]	100 µg/ml
Dieldrin CAS: [60-57-1]	100 µg/ml

DESCRIPTION	CONCENTRATION
Endosulfan-alpha CAS: [959-98-8]	100 µg/ml
Endosulfan-beta CAS: [33213-65-9]	100 µg/ml
Endosulfan-total (sulfate) CAS: [1031-07-8]	100 µg/ml
Endrin CAS: [72-20-8]	100 µg/ml
Endrin aldehyde CAS: [7421-93-4]	100 µg/ml
Heptachlor CAS: [76-44-8]	100 µg/ml
Heptachlor-exo-epoxide CAS: [1024-57-3]	100 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Ethyl Acetate
- **Art. No.:** **PS51590001**

### Pesticide Degradation Check Solution - 2 components

DESCRIPTION	CONCENTRATION
4,4 prime-DDT CAS: [50-29-3]	1 µg/ml

DESCRIPTION	CONCENTRATION
Endrin CAS: [72-20-8]	1 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Ethyl Acetate
- **Art. No.:** **PS51630001**

### Surrogate Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
4,4'-Dibromobiphenyl CAS: [92-86-4]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS53750001**

DESCRIPTION	CONCENTRATION
4,4prime-Dibromobiphenyl (PBB 15) CAS: [92-86-4]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Ethyl Acetate
- **Art. No.:** **PS51690001**

DESCRIPTION	CONCENTRATION
4,4prime-Dibromobiphenyl CAS: [92-86-4]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS51720001**

## EPA 508.A Chlorinated pesticides and PCBs

Chlorinated pesticides and PCBs. Method 508 is applicable to the determination of chlorinated pesticides in ground water and finished water by gas chromatography with an electron capture detector. Method 508.1 is applicable to the determination of chlorinated pesticides, herbicides, and organohalides in ground water and drinking water in any treatment stage using extraction and electron-capture detector gas chromatography. Method 508A is applicable for screening of Polychlorinated Biphenyls (PCBs) by gas chromatography in raw source water or drinking water in any treatment stage.

### Aroclor Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Aroclor 1260 (Aroclor 1260) CAS: [11096-82-5]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51670001**

DESCRIPTION	CONCENTRATION
Arochlor 1260 (Aroclor 1260) CAS: [11096-82-5]	5000 µg/ml

- **Vol.** 1 ml
- **Packaging:** ampoules
- **Solvent:** Methanol
- **Art. No.:** **PS51680001**

### Decachlorobiphenyl Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
PCB 209 CAS: [2051-24-3]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Toluene
- **Art. No.:** **PS51700001**

DESCRIPTION	CONCENTRATION
PCB 209 CAS: [2051-24-3]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS51710001**

## EPA 515 Chlorinated Acids

Chlorinated Acids. Method 515.1 is applicable to the determination of certain chlorinated acids in ground water and finished drinking water. Method 515.2 is applicable to the determination of chlorinated acids in ground water, and finished drinking water, using extraction, derivation, and gas chromatography with electron capture detector. Method 515.3 is applicable to the determination of chlorinated acids in drinking water, ground water, raw source water, and water at any intermediate stage by extraction, derivation, and gas chromatography with electron capture detector.

### Chlorinated Herbicide Acids Mixture - 7 components

DESCRIPTION	CONCENTRATION
Acifluorfen CAS: [50594-66-6]	100 µg/ml
Bentazone CAS: [25057-89-0]	1000 µg/ml
2,4-D CAS: [94-75-7]	100 µg/ml
2,4-DB CAS: [94-82-6]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Dicamba CAS: [1918-00-9]	300 µg/ml
Picloram CAS: [1918-02-1]	300 µg/ml
Fenoprop (2,4,5-TP) CAS: [93-72-1]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51800001**

### Chlorinated Herbicides Mixture - 6 components

DESCRIPTION	CONCENTRATION
Chlorthal-diacid (Tetrachloroterephthalic acid) CAS: [2136-79-0]	100 µg/ml
3,5-Dichlorobenzoic acid CAS: [51-36-5]	500 µg/ml
Dichlorprop CAS: [120-36-5]	100 µg/ml

DESCRIPTION	CONCENTRATION
Dinoseb CAS: [88-85-7]	200 µg/ml
Pentachlorophenol CAS: [87-86-5]	100 µg/ml
2,4,5-T CAS: [93-76-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51790001**

DESCRIPTION	CONCENTRATION
Chlorthal-dimethyl CAS: [1861-32-1]	100 µg/ml
3,5-Dichlorobenzoic acid methyl ester CAS: [2905-67-1]	500 µg/ml
Dichlorprop methyl ester CAS: [57153-17-0]	100 µg/ml

DESCRIPTION	CONCENTRATION
Dinoseb methyl ether CAS: [6099-79-2]	200 µg/ml
Pentachloroanisole CAS: [1825-21-4]	100 µg/ml
2,4,5-T methyl ester CAS: [1928-37-6]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51170001**

### Chlorinated Herbicides Mixture - 7 components

DESCRIPTION	CONCENTRATION
Acifluorfen methyl ester	200 µg/ml
Bentazon methyl derivative CAS: [2225-40-3]	1000 µg/ml
2,4-D-methyl ester CAS: [1928-38-7]	100 µg/ml
2,4-DB methyl ester CAS: [18625-12-2]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Dicamba-methyl ester CAS: [6597-78-0]	300 µg/ml
Picloram methyl ester	300 µg/ml
Fenoprop-methyl ester (Silvex methyl ester) CAS: [4841-20-7]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51180001**

### Chlorinated Herbicides Standard Solution - 16 components

DESCRIPTION	CONCENTRATION
Acifluorfen CAS: [50594-66-6]	100 µg/ml
Bentazone CAS: [25057-89-0]	200 µg/ml
Chloramben CAS: [133-90-4]	100 µg/ml
2,4-D CAS: [94-75-7]	200 µg/ml
Dalapon CAS: [75-99-0]	1300 µg/ml
2,4-DB CAS: [94-82-6]	800 µg/ml
Chlorthal-diacid (Tetrachloroterephthalic acid) CAS: [2136-79-0]	100 µg/ml
Dicamba CAS: [1918-00-9]	100 µg/ml

DESCRIPTION	CONCENTRATION
3,5-Dichlorobenzoic acid CAS: [51-36-5]	100 µg/ml
Dichlorprop CAS: [120-36-5]	300 µg/ml
Dinoseb CAS: [88-85-7]	200 µg/ml
4-Nitrophenol CAS: [100-02-7]	100 µg/ml
Pentachlorophenol CAS: [87-86-5]	100 µg/ml
Picloram CAS: [1918-02-1]	100 µg/ml
Fenoprop (2,4,5-TP) CAS: [93-72-1]	100 µg/ml
2,4,5-T CAS: [93-76-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51730001**

### Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
4,4prime-Dibromooctafluorobiphenyl CAS: [10386-84-2]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS50180001**

DESCRIPTION	CONCENTRATION
4,4prime-Dibromooctafluorobiphenyl CAS: [10386-84-2]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51300001**

### Methyl Derivatives Solution - 5 components

DESCRIPTION	CONCENTRATION
Chloramben methyl ester CAS: [7286-84-2]	600 ng/ml
Dinoseb methyl ether CAS: [6099-79-2]	4 ng/ml
4-Nitroanisole CAS: [100-17-4]	1600 ng/ml

DESCRIPTION	CONCENTRATION
2,4-Dichlorophenylacetic acid methyl ester	500 ng/ml
4,4prime-Dibromooctafluorobiphenyl CAS: [10386-84-2]	250 ng/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51770001**

DESCRIPTION	CONCENTRATION
2,4-Dichlorophenylacetic acid CAS: [19719-28-9]	500 µg/ml
4,4prime-Dibromooctafluorobiphenyl CAS: [10386-84-2]	250 µg/ml

DESCRIPTION	CONCENTRATION
3,5-Dichlorobenzoic acid CAS: [51-36-5]	600 µg/ml
Dinoseb CAS: [88-85-7]	4 µg/ml
4-Nitrophenol CAS: [100-02-7]	16000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51780001**

### Methyl Derivatives Standard Solution - 16 components

DESCRIPTION	CONCENTRATION
Acifluorfen methyl ester	1000 µg/ml
Bentazon methyl derivative CAS: [2225-40-3]	1000 µg/ml
Chloramben methyl ester CAS: [7286-84-2]	1000 µg/ml
2,4-D-methyl ester CAS: [1928-38-7]	1000 µg/ml
Dalapon methyl ester CAS: [17640-02-7]	1000 µg/ml
2,4-DB methyl ester CAS: [18625-12-2]	1000 µg/ml
Chlorthal-dimethyl (DCPA) CAS: [1861-32-1]	1000 µg/ml
Dicamba-methyl ester CAS: [6597-78-0]	1000 µg/ml

DESCRIPTION	CONCENTRATION
3,5-Dichlorobenzoic acid methyl ester CAS: [2905-67-1]	1000 µg/ml
Dichlorprop methyl ester CAS: [57153-17-0]	1000 µg/ml
Dinoseb-methyl ether CAS: [6099-79-2]	1000 µg/ml
4-Nitroanisole CAS: [100-17-4]	1000 µg/ml
Pentachloroanisole CAS: [1825-21-4]	1000 µg/ml
Picloram methyl ester	1000 µg/ml
Fenoprop-methyl ester (Silvex methyl ester) CAS: [4841-20-7]	1000 µg/ml
2,4,5-T methyl ester CAS: [1928-37-6]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51740001**

DESCRIPTION	CONCENTRATION
Acifluorfen methyl ester	100 µg/ml
Bentazon methyl derivative CAS: [2225-40-3]	200 µg/ml
Chloramben methyl ester CAS: [7286-84-2]	100 µg/ml
2,4-D-methyl ester CAS: [1928-38-7]	200 µg/ml
Dalapon methyl ester CAS: [17640-02-7]	1300 µg/ml
2,4-DB methyl ester CAS: [18625-12-2]	800 µg/ml
Chlorthal-dimethyl (DCPA) CAS: [1861-32-1]	100 µg/ml
Dicamba-methyl ester CAS: [6597-78-0]	100 µg/ml

DESCRIPTION	CONCENTRATION
3,5-Dichlorobenzoic acid methyl ester CAS: [2905-67-1]	100 µg/ml
Dichlorprop methyl ester CAS: [57153-17-0]	300 µg/ml
Dinoseb-methyl ether CAS: [6099-79-2]	200 µg/ml
4-Nitroanisole CAS: [100-17-4]	100 µg/ml
Pentachloroanisole CAS: [1825-21-4]	100 µg/ml
Picloram methyl ester	100 µg/ml
Fenoprop-methyl ester (Silvex methyl ester) CAS: [4841-20-7]	100 µg/ml
2,4,5-T methyl ester CAS: [1928-37-6]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51190001**

### SDWA Herbicides Mixture - 6 components

DESCRIPTION	CONCENTRATION
2,4-D CAS: [94-75-7]	1300 µg/ml
Dalapon CAS: [75-99-0]	1300 µg/ml
Dinoseb CAS: [88-85-7]	200 µg/ml

DESCRIPTION	CONCENTRATION
Fenoprop (Silvex) CAS: [93-72-1]	100 µg/ml
Pentachlorophenol CAS: [87-86-5]	100 µg/ml
Picloram CAS: [1918-02-1]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51810001**

### SDWA Methylated Herbicides Mixture - 6 components

DESCRIPTION	CONCENTRATION
2,4-D methyl ester CAS: [1928-38-7]	200 µg/ml
Dalapon methyl ester CAS: [17640-02-7]	1300 µg/ml
Dinoseb methyl ether CAS: [6099-79-2]	200 µg/ml

DESCRIPTION	CONCENTRATION
Fenoprop-methyl ester (Silvex methyl ester) CAS: [4841-20-7]	100 µg/ml
Pentachloroanisole CAS: [1825-21-4]	100 µg/ml
Picloram methyl ester	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51820001**

### Surrogate Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
2,4-Dichlorophenylacetic acid CAS: [19719-28-9]	100 µg/ml

- Vol. 1
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS50300001**

DESCRIPTION	CONCENTRATION
2,4-Dichlorophenylacetic acid CAS: [19719-28-9]	100 µg/ml

- Vol. 1
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51270001**

DESCRIPTION	CONCENTRATION
2,4-Dichlorophenylacetic acid methyl ester	100 µg/ml

- Vol. 1
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51260001**

DESCRIPTION	CONCENTRATION
2,4-Dichlorophenylacetic acid methyl ester	100 µg/ml

- Vol. 1
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51830001**

## EPA 524 Measurement of purgeable organic compounds in water by GC/MS

This is a general purpose method for the identification and simultaneous measurement of purgeable volatile organic compounds in surface water, ground water, and drinking water in any stage of treatment. The method is applicable to a wide range of organic compounds, including the four trihalomethane disinfection by-products, that have sufficiently high volatility and low water solubility to be removed from water samples with purge and trap procedures.

### VOC-Mix EPA 524 - 6 components

DESCRIPTION	CONCENTRATION
Bromodichloromethane CAS: [75-27-4]	2000 µg/ml
Dibromochloromethane CAS: [124-48-1]	2000 µg/ml
1,1-Dichloroethene CAS: [75-35-4]	2000 µg/ml

DESCRIPTION	CONCENTRATION
cis-1,2-Dichloroethene CAS: [156-59-2]	2000 µg/ml
trans-1,2-Dichloroethene CAS: [156-60-5]	2000 µg/ml
Dichloromethane CAS: [75-09-2]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50870001**

## EPA 524.2 Purgeable Organic Compounds

Purgeable organic compounds. Method 524.2 is a purge and trap GC/MS method allowing determination of all VOCs using capillary column.

### Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
1,2-Dichlorobenzene D4 CAS: [2199-69-1]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51850001**

### Internal Standard Solution - 2 components

DESCRIPTION	CONCENTRATION
1,2-Dichlorobenzene D4 CAS: [2199-69-1]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Fluorobenzene CAS: [462-06-6]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51840001**

### Internal Standard Solution - 3 components

DESCRIPTION	CONCENTRATION
4-Bromofluorobenzene CAS: [460-00-4]	2000 µg/ml
1,2-Dichlorobenzene D4 CAS: [2199-69-1]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Fluorobenzene CAS: [462-06-6]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50420001**



## EPA 525.1 Determination of Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary Column Gas Chromatography/Mass Spectrometry

Determination of Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary Column Gas Chromatography/Mass Spectrometry. Method 525.1 is applicable to the determination of purgeable volatile organic compounds in surface water, ground water, and drinking water in any treatment stage.

### Extractables Mixture - 9 components

DESCRIPTION	CONCENTRATION
Adipic acid-bis-2-ethylhexyl ester (Bis(2-ethylhexyl)adipate) CAS: [103-23-1]	500 µg/ml
Phthalic acid,bis-2-ethylhexylester (Bis(2-ethylhexyl)phthalate) CAS: [117-81-7]	500 µg/ml
Phthalic acid, benzylbutyl ester (Butyl benzyl phthalate) CAS: [85-68-7]	500 µg/ml
Phthalic acid, bis-butyl ester (Di-n-butylphthalate) CAS: [84-74-2]	500 µg/ml

DESCRIPTION	CONCENTRATION
Phthalic acid, bis-ethyl ester (Diethyl phthalate) CAS: [84-66-2]	500 µg/ml
Phthalic acid, bis-methyl ester (Dimethyl phthalate) CAS: [131-11-3]	500 µg/ml
Hexachlorobenzene (HCB) CAS: [118-74-1]	500 µg/ml
Hexachlorocyclopentadiene CAS: [77-47-4]	500 µg/ml
Pentachlorophenol CAS: [87-86-5]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS51890001**

### OCs Standard Solution - 12 components

DESCRIPTION	CONCENTRATION
Alachlor CAS: [15972-60-8]	100 µg/ml
Aldrin CAS: [309-00-2]	100 µg/ml
Atrazine CAS: [1912-24-9]	100 µg/ml
cis-Chlordane (alpha-Chlordane) CAS: [5103-71-9]	100 µg/ml
trans-Chlordane (Gamma-Chlordane) CAS: [5103-74-2]	100 µg/ml
Gamma-HCH (Lindane) CAS: [58-89-9]	100 µg/ml

DESCRIPTION	CONCENTRATION
Endrin CAS: [72-20-8]	100 µg/ml
Heptachlor CAS: [76-44-8]	100 µg/ml
Heptachlor-exo-epoxide CAS: [1024-57-3]	100 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	100 µg/ml
trans-Nonachlor CAS: [39765-80-5]	100 µg/ml
Simazine CAS: [122-34-9]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS50760001**

DESCRIPTION	CONCENTRATION
Alachlor CAS: [15972-60-8]	500 µg/ml
Aldrin CAS: [309-00-2]	500 µg/ml
Atrazine CAS: [1912-24-9]	500 µg/ml
cis-Chlordane (alpha-Chlordane) CAS: [5103-71-9]	500 µg/ml
trans-Chlordane (Gamma-Chlordane) CAS: [5103-74-2]	500 µg/ml
Gamma-HCH (Lindane) CAS: [58-89-9]	500 µg/ml

DESCRIPTION	CONCENTRATION
Endrin CAS: [72-20-8]	500 µg/ml
Heptachlor CAS: [76-44-8]	500 µg/ml
Heptachlor-exo-epoxide CAS: [1024-57-3]	500 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	500 µg/ml
trans-Nonachlor CAS: [39765-80-5]	500 µg/ml
Simazine CAS: [122-34-9]	500 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS51880001**

### PAH Standard Solution - 13 components

DESCRIPTION	CONCENTRATION
Acenaphthylene CAS: [208-96-8]	100 µg/ml
Anthracene CAS: [120-12-7]	100 µg/ml
Benzo(a)anthracene CAS: [56-55-3]	100 µg/ml
Benzo(j)fluoranthene CAS: [205-82-3]	100 µg/ml
Benzo(k)fluoranthene CAS: [207-08-9]	100 µg/ml
Benzo(g,h,i)perylene CAS: [191-24-2]	100 µg/ml
Benzo(a)pyrene CAS: [50-32-8]	100 µg/ml

DESCRIPTION	CONCENTRATION
Chrysene CAS: [218-01-9]	100 µg/ml
Dibenzo(a,h)anthracene CAS: [53-70-3]	100 µg/ml
Fluorene CAS: [86-73-7]	100 µg/ml
Indeno(1,2,3-c,d)pyrene CAS: [193-39-5]	100 µg/ml
Phenanthrene CAS: [85-01-8]	100 µg/ml
Pyrene CAS: [129-00-0]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS51860001**

### SDWA SOCs Mixture - 6 components

DESCRIPTION	CONCENTRATION
Benzo(a)pyrene CAS: [50-32-8]	500 µg/ml
Adipic acid-bis-2-ethylhexyl ester (Bis(2-ethylhexyl)adipate) CAS: [103-23-1]	500 µg/ml
Phthalic acid,bis-2-ethylhexylester (Bis(2-ethylhexyl)phthalate) CAS: [117-81-7]	500 µg/ml

DESCRIPTION	CONCENTRATION
Hexachlorobenzene CAS: [118-74-1]	500 µg/ml
Hexachlorocyclopentadiene CAS: [77-47-4]	500 µg/ml
Pentachlorophenol CAS: [87-86-5]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS50630001**

## EPA 525.2 Determination of organic compounds in drinking water by liquid-solid extraction and capillary column Gas Chromatography/ Mass Spectrometry

Determination of organic compounds in drinking water by liquid-solid extraction and capillary column Gas Chromatography/ Mass Spectrometry. This is a general purpose method that provides procedures for determination of organic compounds in finished drinking water, source water, or drinking water in any treatment stage.

### Fortification Solution for Optional Recovery Standard - 1 component

DESCRIPTION	CONCENTRATION
p-Terphenyl D14 CAS: [1718-51-0]	500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS50510001**

### Fortification Solution of Internal Standards and Surrogates - 4 components

DESCRIPTION	CONCENTRATION
Acenaphthene D10 CAS: [15067-26-2]	500 µg/ml
Phenanthrene D10 CAS: [1517-22-2]	500 µg/ml

DESCRIPTION	CONCENTRATION
Chrysene D12 CAS: [1719-03-5]	500 µg/ml
Perylene D12 CAS: [1520-96-3]	500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS50930001**

### GC/MS Performance Check Solution - 3 components

DESCRIPTION	CONCENTRATION
Decafluorotriphenylphosphine CAS: [5074-71-5]	5 µg/ml
Endrin CAS: [72-20-8]	5 µg/ml

DESCRIPTION	CONCENTRATION
4,4 prime-DDT CAS: [50-29-3]	5 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS51940001**

### MS Performance Check Solution - 1 component

DESCRIPTION	CONCENTRATION
Decafluorotriphenylphosphine CAS: [5074-71-5]	500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS51910001**

### PAH Internal & Surrogate Standard Fortification Solution - 3 components

DESCRIPTION	CONCENTRATION
Acenaphthene D10 CAS: [15067-26-2]	500 µg/ml
Chrysene D12 CAS: [1719-03-5]	500 µg/ml

DESCRIPTION	CONCENTRATION
Phenanthrene D10 CAS: [1517-22-2]	500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS50980001**

### PAH Standard Solution - 7 components

DESCRIPTION	CONCENTRATION
Acenaphthene D10 CAS: [15067-26-2]	500 µg/ml
Phenanthrene D10 CAS: [1517-22-2]	500 µg/ml
Chrysene D12 CAS: [1719-03-5]	500 µg/ml
1,3-Dimethyl-2-nitrobenzene CAS: [81-20-9]	500 µg/ml

DESCRIPTION	CONCENTRATION
Perylene D12 CAS: [1520-96-3]	500 µg/ml
Triphenylphosphate CAS: [115-86-6]	500 µg/ml
Pyrene D10 CAS: [1718-52-1]	500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS51930001**

### PAH Surrogate Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Pyrene D10 CAS: [1718-52-1]	500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS51920001**

### Standard Solution - 3 components

DESCRIPTION	CONCENTRATION
Decafluorotriphenylphosphine CAS: [5074-71-5]	500 µg/ml
Endrin CAS: [72-20-8]	500 µg/ml

DESCRIPTION	CONCENTRATION
4,4 prime-DDT CAS: [50-29-3]	500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS51950001**

## EPA 531.1 Measurement of N-Methylcarbamoyloximes and N-Methylcarbamates in Water by Direct Aqueous Injection HPLC with Post Column Derivatization

Measurement of N-methylcarbamoyloximes and N-methylcarbamates in water by direct aqueous injection HPLC with post column derivatization. This is a high performance liquid chromatographic (HPLC) method applicable to the determinations of certain N- methylcarbamoyloximes and N-methylcarbamates in ground water and finished drinking water.

### Carbamates Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (BDMC) CAS: [672-99-1]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS50130001

### Carbamates Laboratory Performance Check Solution - 4 components

DESCRIPTION	CONCENTRATION
Aldicarb-sulfoxide CAS: [1646-87-3]	100 µg/ml
Carbofuran-3-hydroxy CAS: [16655-82-6]	2 µg/ml

DESCRIPTION	CONCENTRATION
Methiocarb CAS: [2032-65-7]	20 µg/ml
4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (BDMC) CAS: [672-99-1]	10 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51960001

### Carbamates Standard Solution - 10 components

DESCRIPTION	CONCENTRATION
Aldicarb CAS: [1116-06-3]	100 µg/ml
Aldicarb-sulfone CAS: [1646-88-4]	100 µg/ml
Aldicarb-sulfoxide CAS: [1646-87-3]	100 µg/ml
Propoxur (baygon) CAS: [114-26-1]	100 µg/ml
Carbaryl CAS: [63-25-2]	100 µg/ml

DESCRIPTION	CONCENTRATION
Carbofuran CAS: [1563-66-2]	100 µg/ml
Carbofuran-3-hydroxy CAS: [16655-82-6]	100 µg/ml
Methiocarb CAS: [2032-65-7]	100 µg/ml
Methomyl CAS: [16752-77-5]	100 µg/ml
Oxamyl CAS: [23135-22-0]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51220001

## EPA 547 Determination of Glyphosate in Drinking Water by Direct-Aqueous-Injection HPLC, Post-Column Derivatization, and Fluorescence Detection

Determination of glyphosate in drinking water by direct aqueous injection HPLC, post-column derivatization, and fluorescence detection. This method describes a procedure for the identification and measurement of Glyphosate (N-phosphonomethyl glycine) in drinking water matrices.

### Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Glyphosate CAS: [1071-83-6]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Water
- **Art. No.:** PS50210001

## EPA 549.2 Determination of Diquat and Paraquat in Drinking Water by Liquid-Solid Extraction and HPLC-UV

Determination of Diquat and Paraquat in drinking water by liquid-solid extraction and HPLC. This is a high performance liquid chromatography (HPLC) method for the determination of diquat (1,1'-ethylene-2,2'- bipyridilium dibromide salt) and paraquat (1,1'-dimethyl-4,4'- bipyridilium dichloride salt) in drinking water sources and finished drinking water.

### Diquat & Paraquat Mixture - 2 components

DESCRIPTION	CONCENTRATION
Diquat dibromide hydrate CAS: [6385-62-2]	1968 µg/ml (1000 µg/ml Diquat)

DESCRIPTION	CONCENTRATION
Paraquat dichloride CAS: [1910-42-5]	1770 µg/ml (1000 µg/ml Paraquat)

- **Vol.** 1
- **Packaging:** Ampoule
- **Solvent:** Water
- **Art. No.:** PS51230001

## EPA 550 Determination of PAHs in Drinking Water By Liquid-Liquid Extraction and HPLC with Coupled Ultraviolet and Fluorescence Detection

Determination of polycyclic aromatic hydrocarbons in drinking water by extraction and HPLC with coupled ultraviolet and fluorescence detection. These methods describe a procedure for determination of certain polycyclic aromatic hydrocarbons (PAH) in drinking water sources and finished drinking water. Method 550 uses liquid-liquid extraction.

## PAH Standard Solution - 16 components

DESCRIPTION	CONCENTRATION
Acenaphthene CAS: [83-32-9]	1000 µg/ml
Acenaphthylene CAS: [208-96-8]	1000 µg/ml
Anthracene CAS: [120-12-7]	625 µg/ml
Benzo(a)anthracene CAS: [56-55-3]	1 µg/ml
Benzo(a)pyrene CAS: [50-32-8]	5 µg/ml
Benzo(b)fluoranthene CAS: [205-99-2]	1 µg/ml
Benzo(g,h,i)perylene CAS: [191-24-2]	5 µg/ml
Benzo(k)fluoranthene CAS: [207-08-9]	1.25 µg/ml

DESCRIPTION	CONCENTRATION
Chrysene CAS: [218-01-9]	625 µg/ml
Dibenzo(a,h)anthracene CAS: [53-70-3]	1.25 µg/ml
Fluoranthene CAS: [206-44-0]	2.5 µg/ml
Fluorene CAS: [86-73-7]	100 µg/ml
Indeno(1,2,3-c,d)pyrene CAS: [193-39-5]	12.5 µg/ml
Naphthalene CAS: [91-20-3]	1000 µg/ml
Phenanthrene CAS: [85-01-8]	50 µg/ml
Pyrene CAS: [129-00-0]	62.5 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS51970001**

## EPA 552 Determination of haloacetic acids and dalapon in drinking water by extraction, derivatization, and Gas Chromatography with electron capture detection

Determination of haloacetic acids and dalapon in drinking water by extraction, derivatization, and Gas Chromatography with electron capture detection. This is a gas chromatographic (GC) method applicable to the determination of halogenated acetic acids and Dalapon in drinking water, ground water, raw water and any intermediate treatment stage.

## Haloacetic Acids Mixture with Surrogate - 11 components

DESCRIPTION	CONCENTRATION
Chloroacetic acid (Monochloroacetic Acid) CAS: [79-11-8]	60 µg/ml
Bromoacetic acid (Monobromoacetic Acid) CAS: [79-08-3]	40 µg/ml
Dalapon CAS: [75-99-0]	40 µg/ml
Dichloroacetic Acid CAS: [79-43-6]	60 µg/ml
Trichloroacetic acid CAS: [76-03-9]	20 µg/ml

DESCRIPTION	CONCENTRATION
Bromochloroacetic Acid CAS: [5589-96-8]	40 µg/ml
Dibromoacetic acid CAS: [631-64-1]	20 µg/ml
Bromodichloroacetic acid CAS: [71133-14-7]	40 µg/ml
Dibromochloroacetic acid CAS: [5278-95-5]	100 µg/ml
Tribromoacetic acid CAS: [75-96-7]	200 µg/ml
2,3-Dibromopropionic acid CAS: [600-05-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS52000001**

## Haloacetic Acids Mixture without Surrogate - 10 components

DESCRIPTION	CONCENTRATION
Chloroacetic acid (Monochloroacetic Acid) CAS: [79-11-8]	60 µg/ml
Bromoacetic acid (Monobromoacetic Acid) CAS: [79-08-3]	40 µg/ml
Dalapon CAS: [75-99-0]	40 µg/ml
Dichloroacetic Acid CAS: [79-43-6]	60 µg/ml

DESCRIPTION	CONCENTRATION
Trichloroacetic acid CAS: [76-03-9]	20 µg/ml
Bromochloroacetic Acid CAS: [5589-96-8]	40 µg/ml
Dibromoacetic acid CAS: [631-64-1]	20 µg/ml
Bromodichloroacetic acid CAS: [71133-14-7]	40 µg/ml
Dibromochloroacetic acid CAS: [5278-95-5]	100 µg/ml
Tribromoacetic acid CAS: [75-96-7]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS52010001**

## Methylated Haloacetic Acids Mixture - 8 components

DESCRIPTION	CONCENTRATION
Chloroacetic acid methyl ester CAS: [96-34-4]	1000 µg/ml
Dichloroacetic acid-methyl ester CAS: [116-54-1]	1000 µg/ml
Trichloroacetic acid-methyl ester CAS: [598-99-2]	1000 µg/ml
Bromoacetic acid-methyl ester CAS: [96-32-2]	1000 µg/ml
Dibromoacetic acid-methyl ester CAS: [6482-26-4]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Bromochloroacetic acid-methyl ester CAS: [20428-74-4]	1000 µg/ml
2,4-Dichloroanisole CAS: [553-82-2]	1000 µg/ml
2,4,6-Trichloroanisole CAS: [87-40-1]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS51990001**

## Methylated Haloacetic Acids Mixture with Surrogate - 11 components

DESCRIPTION	CONCENTRATION
Dalapon methyl ester CAS: [17640-02-7]	40 µg/ml
Bromoacetic acid-methyl ester (Methyl bromoacetate) CAS: [96-32-2]	40 µg/ml
Bromochloroacetic acid-methyl ester (Methyl bromochloroacetate) CAS: [20428-74-4]	40 µg/ml
Bromodichloroacetic acid-methyl ester CAS: [20428-76-6]	40 µg/ml
Chloroacetic acid methyl ester (Methyl chloroacetate) CAS: [96-34-4]	60 µg/ml
Dibromochloroacetic acid-methyl ester CAS: [20428-75-5]	100 µg/ml

DESCRIPTION	CONCENTRATION
Dibromoacetic acid-methyl ester (Methyl dibromoacetate) CAS: [6482-26-4]	20 µg/ml
Dichloroacetic acid-methyl ester CAS: [116-54-1]	60 µg/ml
Tribromoacetic acid-methyl ester CAS: [3222-05-7]	200 µg/ml
Trichloroacetic acid-methyl ester (Methyl trichloroacetate) CAS: [598-99-2]	20 µg/ml
2,3-Dibromopropionic acid methyl ester CAS: [1729-67-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS52020001**

### Methylated Haloacetic Acids Mixture without Surrogate - 10 components

DESCRIPTION	CONCENTRATION
Dalapon methyl ester CAS: [17640-02-7]	40 µg/ml
Bromoacetic acid-methyl ester (Methyl bromoacetate) CAS: [96-32-2]	40 µg/ml
Bromochloroacetic acid-methyl ester (Methyl bromochloroacetate) CAS: [20428-74-4]	40 µg/ml
Bromodichloroacetic acid-methyl ester CAS: [20428-76-6]	40 µg/ml
Chloroacetic acid methyl ester (Methyl chloroacetate) CAS: [96-34-4]	60 µg/ml

DESCRIPTION	CONCENTRATION
Dibromochloroacetic acid-methyl ester CAS: [20428-75-5]	100 µg/ml
Dibromoacetic acid-methyl ester (Methyl dibromoacetate) CAS: [6482-26-4]	20 µg/ml
Dichloroacetic acid-methyl ester CAS: [116-54-1]	60 µg/ml
Tribromoacetic acid-methyl ester CAS: [3222-05-7]	200 µg/ml
Trichloroacetic acid-methyl ester (Methyl trichloroacetate) CAS: [598-99-2]	20 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS52030001**

### PAH Standard Solution - 16 components

DESCRIPTION	CONCENTRATION
Acenaphthene CAS: [83-32-9]	1000 µg/ml
Acenaphthylene CAS: [208-96-8]	1000 µg/ml
Anthracene CAS: [120-12-7]	1000 µg/ml
Benzo(a)anthracene CAS: [56-55-3]	1000 µg/ml
Benzo(a)pyrene CAS: [50-32-8]	1000 µg/ml
Benzo(b)fluoranthene CAS: [205-99-2]	1000 µg/ml
Benzo(g,h,i)perylene CAS: [191-24-2]	1000 µg/ml
Benzo(k)fluoranthene CAS: [207-08-9]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Chrysene CAS: [218-01-9]	1000 µg/ml
Dibenzo(a,h)anthracene CAS: [53-70-3]	1000 µg/ml
Fluoranthene CAS: [206-44-0]	1000 µg/ml
Fluorene CAS: [86-73-7]	1000 µg/ml
Indeno(1,2,3-c,d)pyrene CAS: [193-39-5]	1000 µg/ml
Naphthalene CAS: [91-20-3]	1000 µg/ml
Phenanthrene CAS: [85-01-8]	1000 µg/ml
Pyrene CAS: [129-00-0]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS51980001**

## EPA 554 Determination of carbonyl compounds in drinking water by dinitrophenylhydrazine derivatization and HPLC

Determination of carbonyl compounds in drinking water by dinitrophenylhydrazine derivatization and HPLC. This is a high performance liquid chromatographic (HPLC) method optimized for the determination of carbonyl compounds in finished drinking water and raw source water.

### Carbonyl Compounds Standard Solution - 12 components

DESCRIPTION	CONCENTRATION
Formaldehyde CAS: [50-00-0]	1000 µg/ml
Acetaldehyde CAS: [75-07-0]	1000 µg/ml
Propionaldehyde (Propanal) CAS: [123-38-6]	1000 µg/ml
Butyraldehyde (Butanal) CAS: [123-72-8]	1000 µg/ml
Valeraldehyde (Pentanal) CAS: [110-62-3]	1000 µg/ml
Hexanal CAS: [66-25-1]	1000 µg/ml

DESCRIPTION	CONCENTRATION
1-Heptanal (Heptanal) CAS: [111-71-7]	1000 µg/ml
Octanal CAS: [124-13-0]	1000 µg/ml
Nonanal CAS: [124-19-6]	1000 µg/ml
Decanal CAS: [112-31-2]	1000 µg/ml
Cyclohexanone CAS: [108-94-1]	1000 µg/ml
Crotonaldehyde CAS: [123-73-9]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS52070001**

### Derivatized Carbonyl Compounds Mixture - 12 components

DESCRIPTION	CONCENTRATION
Formaldehyde-DNPH CAS: [1081-15-8]	1000 µg/ml
Acetaldehyde-DNPH CAS: [1019-57-4]	1000 µg/ml
Propionaldehyde-DNPH (Propanal-DNPH) CAS: [725-00-8]	1000 µg/ml
n-Butyraldehyde-DNPH (Butanal-DNPH) CAS: [1527-98-6]	1000 µg/ml
Valeraldehyde-DNPH CAS: [2057-84-3]	1000 µg/ml
Hexaldehyde-DNPH CAS: [1527-97-5]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Heptaldehyde-DNPH (Heptanal-DNPH) CAS: [2074-05-7]	1000 µg/ml
Octanal-DNPH CAS: [1726-77-8]	1000 µg/ml
Nonanal-DNPH	1000 µg/ml
Decanal-DNPH	1000 µg/ml
Cyclohexanone-DNPH CAS: [1589-62-4]	1000 µg/ml
Crotonaldehyde-DNPH CAS: [1527-96-4]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol / Acetonitrile (4/1)
- **Art. No.:** **PS52080001**

See complete range of standards in this QR code



Complete range of standards classified according to ASTM Methods, ISO Methods, EN Standards, contaminant standards, single component solutions and Neat standards.

## EPA 555 Determination of chlorinated acids in water by HPLC with a photodiode array ultraviolet detector

Determination of chlorinated acids in water by HPLC with a photodiode array ultraviolet detector. This is a high performance liquid chromatographic (HPLC) method for the determination of certain chlorinated acids in ground water and finished drinking water.

### Chlorinated Acids Mixture A - 8 components

DESCRIPTION	CONCENTRATION
Acifluorfen CAS: [50594-66-6]	1000 µg/ml
Bentazone CAS: [25057-89-0]	1000 µg/ml
Chloramben CAS: [133-90-4]	1000 µg/ml
2,4-D CAS: [94-75-7]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Dicamba CAS: [1918-00-9]	1000 µg/ml
Dichlorprop CAS: [120-36-5]	1000 µg/ml
Picloram CAS: [1918-02-1]	1000 µg/ml
Fenoprop (Silvex) CAS: [93-72-1]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS51200001**

### Chlorinated Acids Mixture B - 8 components

DESCRIPTION	CONCENTRATION
2,4-DB CAS: [94-82-6]	1000 µg/ml
3,5-Dichlorobenzoic acid CAS: [51-36-5]	1000 µg/ml
4-Nitrophenol CAS: [100-02-7]	1000 µg/ml
Dinoseb CAS: [88-85-7]	1000 µg/ml

DESCRIPTION	CONCENTRATION
MCPA CAS: [94-74-6]	1000 µg/ml
Mecoprop (MCPP) CAS: [7085-19-0]	1000 µg/ml
Pentachlorophenol CAS: [87-86-5]	1000 µg/ml
2,4,5-T CAS: [93-76-5]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS51210001**

## EPA 556 Determination of carbonyl compounds in drinking water by pentafluorobenzylhydroxylamine derivatization and capillary Gas chromatography with electron capture detection

Determination of carbonyl compounds in drinking water by pentafluorobenzylhydroxylamine derivatization and capillary Gas Chromatography with electron capture detection. This is a gas chromatographic method optimized for the determination of carbonyl compounds in finished drinking water and raw source water.

### Aldehydes Mixtures (556 and 556.1) - 14 components

DESCRIPTION	CONCENTRATION
Formaldehyde CAS: [50-00-0]	100 µg/ml
Acetaldehyde CAS: [75-07-0]	100 µg/ml
Propionaldehyde (Propanal) CAS: [123-38-6]	100 µg/ml
Butyraldehyde (Butanal) CAS: [123-72-8]	100 µg/ml
Valeraldehyde (Pentanal) CAS: [110-62-3]	100 µg/ml
Hexanal CAS: [66-25-1]	100 µg/ml
1-Heptanal (Heptanal) CAS: [111-71-7]	100 µg/ml

DESCRIPTION	CONCENTRATION
Octanal CAS: [124-13-0]	100 µg/ml
Nonanal CAS: [124-19-6]	100 µg/ml
Decanal CAS: [112-31-2]	100 µg/ml
Cyclohexanone CAS: [108-94-1]	100 µg/ml
Benzaldehyde CAS: [100-52-7]	100 µg/ml
Glyoxal (Ethanedial) CAS: [107-22-2]	100 µg/ml
Methylglyoxal CAS: [78-98-8]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS52100001**

### Aldehydes Mixtures (556) - 15 components

DESCRIPTION	CONCENTRATION
Formaldehyde CAS: [50-00-0]	1000 µg/ml
Acetaldehyde CAS: [75-07-0]	1000 µg/ml
Propionaldehyde (Propanal) CAS: [123-38-6]	1000 µg/ml
Butyraldehyde (Butanal) CAS: [123-72-8]	1000 µg/ml
Valeraldehyde (Pentanal) CAS: [110-62-3]	1000 µg/ml
Hexanal CAS: [66-25-1]	1000 µg/ml
1-Heptanal (Heptanal) CAS: [111-71-7]	1000 µg/ml
Octanal CAS: [124-13-0]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Nonanal CAS: [124-19-6]	1000 µg/ml
Decanal CAS: [112-31-2]	1000 µg/ml
Cyclohexanone CAS: [108-94-1]	1000 µg/ml
Crotonaldehyde CAS: [123-73-9]	1000 µg/ml
Benzaldehyde CAS: [100-52-7]	1000 µg/ml
Glyoxal (Ethanedial) CAS: [107-22-2]	1000 µg/ml
Methylglyoxal CAS: [78-98-8]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS52090001**

### Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
1,2-Dibromopropane CAS: [78-75-1]	10 µg/ml

- Vol. 10ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS52120010**

DESCRIPTION	CONCENTRATION
1,2-Dibromopropane CAS: [78-75-1]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS52110001**



### Surrogate Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
2',4',5'-Trifluoroacetophenone CAS: [129322-83-4]	2000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS52140001**

DESCRIPTION	CONCENTRATION
2',4',5'-Trifluoroacetophenone CAS: [129322-83-4]	10000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS52130001**

## EPA METHODS 600 SERIES

The EPA 600 methods are designed for monitoring organic pollutants in industrial and municipal waste discharges. These methods are cited under the Clean Water Act (CWA).

### EPA 601 Purgeable Halocarbons

Purgeable halocarbons. This is a purge and trap gas chromatographic (GC/MS) method applicable to the determination of purgeable halocarbons.

#### Purgeable Halocarbon Mix - 28 components

DESCRIPTION	CONCENTRATION
Bromodichloromethane CAS: [75-27-4]	100 µg/ml
Tribromomethane (Bromoform) CAS: [75-25-2]	100 µg/ml
Bromomethane CAS: [74-83-9]	100 µg/ml
Tetrachloromethane (Carbon tetrachloride) CAS: [56-23-5]	100 µg/ml
Chlorobenzene CAS: [108-90-7]	100 µg/ml
Chloroethane CAS: [75-00-3]	100 µg/ml
Chloroform CAS: [67-66-3]	100 µg/ml
Chloromethane CAS: [74-87-3]	100 µg/ml
Dibromochloromethane CAS: [124-48-1]	100 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	100 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	100 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	100 µg/ml
Dichlorodifluoromethane CAS: [75-71-8]	100 µg/ml
1,1-Dichloroethane CAS: [75-34-3]	100 µg/ml

DESCRIPTION	CONCENTRATION
1,2-Dichloroethane CAS: [107-06-2]	100 µg/ml
1,1-Dichloroethene CAS: [75-35-4]	100 µg/ml
trans-1,2-Dichloroethene CAS: [156-60-5]	100 µg/ml
1,2-Dichloropropane CAS: [78-87-5]	100 µg/ml
cis-1,3-Dichloropropene CAS: [10061-01-5]	100 µg/ml
trans-1,3-Dichloropropene CAS: [10061-02-6]	100 µg/ml
Dichloromethane (Methylene chloride) CAS: [75-09-2]	100 µg/ml
1,1,2,2-Tetrachloroethane CAS: [79-34-5]	100 µg/ml
Tetrachloroethene CAS: [127-18-4]	100 µg/ml
1,1,1-Trichloroethane CAS: [71-55-6]	100 µg/ml
1,1,2-Trichloroethane CAS: [79-00-5]	100 µg/ml
Trichloroethene CAS: [79-01-6]	100 µg/ml
Fluorotrichloromethane (Trichlorofluoromethane) CAS: [75-69-4]	100 µg/ml
Vinylchloride CAS: [75-01-4]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** **PS50890001**

#### VOC Performance Check Solution - 8 components

DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	200 µg/ml
Tetrachloromethane (Carbontetrachloride) CAS: [56-23-5]	200 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	200 µg/ml
1,2-Dichloroethane CAS: [107-06-2]	200 µg/ml

DESCRIPTION	CONCENTRATION
1,1-Dichloroethene CAS: [75-35-4]	200 µg/ml
1,1,1-Trichloroethane CAS: [71-55-6]	200 µg/ml
Trichloroethene CAS: [79-01-6]	200 µg/ml
Vinylchloride CAS: [75-01-4]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** **PS50540001**

#### VOC Purgeable Gas Mixture - 5 components

DESCRIPTION	CONCENTRATION
Bromomethane CAS: [74-83-9]	100 µg/ml
Chloroethane CAS: [75-00-3]	100 µg/ml
Chloromethane CAS: [74-87-3]	100 µg/ml

DESCRIPTION	CONCENTRATION
Dichlorodifluoromethane CAS: [75-71-8]	100 µg/ml
Vinylchloride CAS: [75-01-4]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** **PS50390001**

## EPA 602 Purgeable aromatics

Purgeable aromatics. This is a purge and trap gas chromatographic (GC/MS) method applicable to the determination of purgeable aromatics.

### Purgeable Aromatics Mixture - 7 components

DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	100 µg/ml
Chlorobenzene CAS: [108-90-7]	100 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	100 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	100 µg/ml

DESCRIPTION	CONCENTRATION
1,4-Dichlorobenzene CAS: [106-46-7]	100 µg/ml
Ethylbenzene CAS: [100-41-4]	100 µg/ml
Toluene CAS: [108-88-3]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol  
purge-and-trap
- **Art. No.:** **PS52180001**

## EPA 603 Acrolein and Acrylonitrile

Acrolein and Acrylonitrile. This is a purge and trap gas chromatographic (GC/FID) method applicable to the determination of acrolein and acrylonitrile in municipal and industrial discharges as provided under 40 CFR Part 136.1

### Carbonyl Compounds Standard Solution - 2 components

DESCRIPTION	CONCENTRATION
Acrolein (2-Propenal) CAS: [107-02-8]	10000 µg/ml

DESCRIPTION	CONCENTRATION
Acrylonitrile CAS: [107-13-1]	10000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Water
- **Art. No.:** **PS52220001**

## EPA 604 Phenols

Phenols. This method is a flame ionization detector gas chromatographic (GC/FID) method applicable to the determination of phenol and certain substituted phenols in municipal and industrial discharges as provided under 40 CFR Part 136.1. This method describes analytical conditions for derivatization, cleanup, and electron capture detector gas chromatography (ECDGC) that can be used to confirm measurements made by FIDGC.

### Phenols Surrogate Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
2,4,6-Tribromophenol CAS: [118-79-6]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52200001**

## EPA 605 Benzidines

Benzidines. This is a high performance liquid chromatography (HPLC) method applicable to the determination of certain benzidines in municipal and industrial discharges as provided under 40 CFR Part 136.1.

### Standard Solution - 2 components

DESCRIPTION	CONCENTRATION
Benzidine CAS: [92-87-5]	1000ug/m

DESCRIPTION	CONCENTRATION
3,3'-Dichlorobenzidine CAS: [91-94-1]	1000ug/m

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50600001**

## EPA 606 Phthalate Ester

Phthalate ester. This is a gas chromatographic (GC/ECD) method applicable to the determination of certain phthalate esters in municipal and industrial discharges as provided under 40 CFR Part 136.1.

### Phthalates Standard Solution - 6 components

DESCRIPTION	CONCENTRATION
Phthalic acid, bis-2-ethylhexylester (Bis(2-ethylhexyl)phthalate) CAS: [117-81-7]	1000 µg/ml
Phthalic acid, benzylbutyl ester (Butyl benzyl phthalate) CAS: [85-68-7]	1000 µg/ml
Phthalic acid, bis-butyl ester (di-n-butyl phthalate) CAS: [84-74-2]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Phthalic acid, bis-ethyl ester (Diethyl phthalate) CAS: [84-66-2]	1000 µg/ml
Phthalic acid, bis-methyl ester (Dimethyl phthalate) CAS: [131-11-3]	1000 µg/ml
Phthalic acid, bis-1-octyl ester (di-n-octyl phthalate) CAS: [117-84-0]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS50350001**

## EPA 608 Organochlorine pesticides and PCBs

Organochlorine pesticides and PCBs. Method 608 is a gas chromatographic (GC/ECD) method applicable to the determination of certain organochlorine pesticides and PCBs in municipal and industrial discharges as provided under 40 CFR Part 136.1.

### NCC Standard Solution - 3 components

DESCRIPTION	CONCENTRATION
N-Nitroso-dimethylamine CAS: [62-75-9]	1000 µg/ml
N-Nitroso-diphenylamine CAS: [86-30-6]	1000 µg/ml

DESCRIPTION	CONCENTRATION
N-Nitroso-di-n-propylamine CAS: [621-64-7]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52240001**

### OCs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Chlordane (technical) CAS: [57-74-9]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS50150001**

DESCRIPTION	CONCENTRATION
Toxaphene CAS: [8001-35-2]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS50230001**

### OCs Standard Solution - 16 components

DESCRIPTION	CONCENTRATION
Aldrin CAS: [309-00-2]	20 µg/ml
Alpha-HCH CAS: [319-84-6]	20 µg/ml
Beta-HCH CAS: [319-85-7]	20 µg/ml
Gamma-HCH (Lindane) CAS: [58-89-9]	20 µg/ml
Delta-HCH CAS: [319-86-8]	20 µg/ml
4,4'-DDD (TDE) CAS: [72-54-8]	20 µg/ml
4,4'-DDE CAS: [72-55-9]	20 µg/ml
4,4'-DDT CAS: [50-29-3]	20 µg/ml

DESCRIPTION	CONCENTRATION
Dieldrin CAS: [60-57-1]	20 µg/ml
Endosulfan-alpha CAS: [959-98-8]	20 µg/ml
Endosulfan-beta CAS: [33213-65-9]	20 µg/ml
Endosulfan-total (sulfate) CAS: [1031-07-8]	20 µg/ml
Endrin CAS: [72-20-8]	20 µg/ml
Endrin aldehyde CAS: [7421-93-4]	20 µg/ml
Heptachlor CAS: [76-44-8]	20 µg/ml
Heptachlor-exo-epoxide (Heptachlor epoxide) CAS: [1024-57-3]	20 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52250001**

### OCs Standard Solution - 5 components

DESCRIPTION	CONCENTRATION
Chlorothalonil CAS: [1897-45-6]	100 µg/ml
Chlorthal-dimethyl (DCPA) CAS: [1861-32-1]	100 µg/ml
Dicloran (Dichloran) CAS: [99-30-9]	100 µg/ml

DESCRIPTION	CONCENTRATION
Methoxychlor (DMTD) CAS: [72-43-5]	100 µg/ml
Permethrin CAS: [52645-53-1]	200 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52290001**

DESCRIPTION	CONCENTRATION
Chlorothalonil CAS: [1897-45-6]	1 µg/ml
Chlorthal-dimethyl (DCPA) CAS: [1861-32-1]	3 µg/ml
Dicloran (Dichloran) CAS: [99-30-9]	2 µg/ml

DESCRIPTION	CONCENTRATION
Methoxychlor (DMTD) CAS: [72-43-5]	40 µg/ml
Permethrin CAS: [52645-53-1]	400 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS52310001**

### OCs Standard Solution - 7 components

DESCRIPTION	CONCENTRATION
Chlorobenzilate CAS: [510-15-6]	1000 µg/ml
Chloroneb CAS: [2675-77-6]	1000 µg/ml
Chloropropylate CAS: [5836-10-2]	1000 µg/ml
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Etridiazole CAS: [2593-15-9]	1000 µg/ml
Quintozene (Pentachloronitrobenzene) CAS: [82-68-8]	1000 µg/ml
Propachlor CAS: [1918-16-7]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52280001**

DESCRIPTION	CONCENTRATION
Chlorobenzilate CAS: [510-15-6]	200 µg/ml
Chloroneb CAS: [2675-77-6]	40 µg/ml
Chloropropylate CAS: [5836-10-2]	200 µg/ml
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	40 µg/ml

DESCRIPTION	CONCENTRATION
Etridiazole CAS: [2593-15-9]	40 µg/ml
Quintozene (Pentachloronitrobenzene) CAS: [82-68-8]	60 µg/ml
Propachlor CAS: [1918-16-7]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52300001**

### PCBs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Aroclor 1016 CAS: [12674-11-2]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS50020001**

DESCRIPTION	CONCENTRATION
Aroclor 1221 (pcb 1221) CAS: [11104-28-2]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS50040001**

DESCRIPTION	CONCENTRATION
Aroclor 1232 (pcb 1232) CAS: [11141-16-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS50060001**

DESCRIPTION	CONCENTRATION
Aroclor 1242 (PCB 1242) CAS: [53469-21-9]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52260001**

DESCRIPTION	CONCENTRATION
Aroclor 1248 (pcb 1248) CAS: [12672-29-6]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS50080001**

DESCRIPTION	CONCENTRATION
Aroclor 1254 (PCB 1254) CAS: [11097-69-1]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS50100001**

DESCRIPTION	CONCENTRATION
Aroclor 1260 CAS: [11096-82-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS50120001**

### EPA 609 Nitroaromatics and isophorone

Nitroaromatics and isophorone. This is a gas chromatographic (GC/ECD/FID) method applicable to the determination of certain nitroaromatics and isophorone in municipal and industrial discharges as provided under 40 CFR Part 136.1.

#### ACs Standard Solution - 4 components

DESCRIPTION	CONCENTRATION
2,4-Dinitrotoluene CAS: [121-14-2]	100 µg/ml
2,6-Dinitrotoluene CAS: [606-20-2]	100 µg/ml

DESCRIPTION	CONCENTRATION
Isophorone CAS: [78-59-1]	100 µg/ml
Nitrobenzene CAS: [98-95-3]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51020001**

### EPA 610 Polynuclear aromatic hydrocarbons

Polynuclear aromatic hydrocarbons. This is a chromatographic method (GC/FID or HPLC) applicable to the determination of certain polynuclear aromatic hydrocarbons (PAH) in municipal and industrial discharges as provided under 40 CFR Part 136.1.

#### PAH Standard Solution - 16 components

DESCRIPTION	CONCENTRATION
Acenaphthene CAS: [83-32-9]	100 µg/ml
Acenaphthylene CAS: [208-96-8]	200 µg/ml
Anthracene CAS: [120-12-7]	100 µg/ml
Benzo(a)anthracene CAS: [56-55-3]	100 µg/ml
Benzo(a)pyrene CAS: [50-32-8]	100 µg/ml
Benzo(b)fluoranthene CAS: [205-99-2]	200 µg/ml
Benzo(g,h,i)perylene CAS: [191-24-2]	200 µg/ml
Benzo(k)fluoranthene CAS: [207-08-9]	100 µg/ml

DESCRIPTION	CONCENTRATION
Chrysene CAS: [218-01-9]	100 µg/ml
Dibenzo(a,h)anthracene CAS: [53-70-3]	200 µg/ml
Fluoranthene CAS: [206-44-0]	200 µg/ml
Fluorene CAS: [86-73-7]	200 µg/ml
Indeno(1,2,3-c,d)pyrene CAS: [193-39-5]	100 µg/ml
Naphthalene CAS: [91-20-3]	1000 µg/ml
Phenanthrene CAS: [85-01-8]	100 µg/ml
Pyrene CAS: [129-00-0]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol / Dichloromethane (1/1)
- **Art. No.:** **PS52330001**

DESCRIPTION	CONCENTRATION
Acenaphthene CAS: [83-32-9]	100 µg/ml
Acenaphthylene CAS: [208-96-8]	100 µg/ml
Anthracene CAS: [120-12-7]	100 µg/ml
Benzo(a)anthracene CAS: [56-55-3]	100 µg/ml
Benzo(a)pyrene CAS: [50-32-8]	100 µg/ml
Benzo(b)fluoranthene CAS: [205-99-2]	100 µg/ml
Benzo(g,h,i)perylene CAS: [191-24-2]	100 µg/ml
Benzo(k)fluoranthene CAS: [207-08-9]	100 µg/ml

DESCRIPTION	CONCENTRATION
Chrysene CAS: [218-01-9]	100 µg/ml
Dibenzo(a,h)anthracene CAS: [53-70-3]	100 µg/ml
Fluoranthene CAS: [206-44-0]	100 µg/ml
Fluorene CAS: [86-73-7]	100 µg/ml
Indeno(1,2,3-c,d)pyrene CAS: [193-39-5]	100 µg/ml
Naphthalene CAS: [91-20-3]	100 µg/ml
Phenanthrene CAS: [85-01-8]	100 µg/ml
Pyrene CAS: [129-00-0]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol / Dichloromethane (1/1)
- **Art. No.:** **PS50620001**

DESCRIPTION	CONCENTRATION
Acenaphthene CAS: [83-32-9]	20 µg/ml
Acenaphthylene CAS: [208-96-8]	20 µg/ml
Anthracene CAS: [120-12-7]	20 µg/ml
Benzo(a)anthracene CAS: [56-55-3]	20 µg/ml
Benzo(a)pyrene CAS: [50-32-8]	20 µg/ml
Benzo(b)fluoranthene CAS: [205-99-2]	20 µg/ml
Benzo(g,h,i)perylene CAS: [191-24-2]	20 µg/ml
Benzo(k)fluoranthene CAS: [207-08-9]	20 µg/ml

DESCRIPTION	CONCENTRATION
Chrysene CAS: [218-01-9]	20 µg/ml
Dibenzo(a,h)anthracene CAS: [53-70-3]	20 µg/ml
Fluoranthene CAS: [206-44-0]	20 µg/ml
Fluorene CAS: [86-73-7]	20 µg/ml
Indeno(1,2,3-c,d)pyrene CAS: [193-39-5]	20 µg/ml
Naphthalene CAS: [91-20-3]	20 µg/ml
Phenanthrene CAS: [85-01-8]	20 µg/ml
Pyrene CAS: [129-00-0]	20 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Methanol / Dichloromethane (1/1)
- Art. No.: **PS52320001**

## EPA 611 Haloethers

Haloethers. This is a gas chromatographic (GC/ECD or ECLD) method applicable to the determination of certain haloethers in municipal and industrial discharges as provided under 40 CFR Part 136.1.

### QC Haloethers Mixture - 5 components

DESCRIPTION	CONCENTRATION
Bis-(2-chloroethyl)-ether CAS: [111-44-4]	100 µg/ml
Bis-(2-chloroethoxy)-methane CAS: [111-91-1]	100 µg/ml
Bis-(2-chloro-1-methylethyl)ether CAS: [108-60-1]	100 µg/ml

DESCRIPTION	CONCENTRATION
PBDE #3 (4-bromophenyl phenyl ether) CAS: [101-55-3]	100 µg/ml
4-Chlorophenyl phenyl ether CAS: [7005-72-3]	100 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Acetone
- Art. No.: **PS50520001**

## EPA 612 Chlorinated hydrocarbons

Chlorinated hydrocarbons. This is a gas chromatographic (GC/ECD or ECLD) method applicable to the determination of certain chlorinated hydrocarbons in municipal and industrial discharges as provided under 40 CFR Part 136.1.

### ACs Standard Solution - 9 components

DESCRIPTION	CONCENTRATION
2-Chloronaphthalene CAS: [91-58-7]	100 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	100 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	100 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	100 µg/ml
Hexachlorobenzene CAS: [118-74-1]	100 µg/ml

DESCRIPTION	CONCENTRATION
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	100 µg/ml
Hexachlorocyclopentadiene CAS: [77-47-4]	100 µg/ml
Hexachloroethane CAS: [67-72-1]	100 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	100 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Methanol / Dichloromethane (1/1)
- Art. No.: **PS52340001**

DESCRIPTION	CONCENTRATION
2-Chloronaphthalene CAS: [91-58-7]	400 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	200 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	200 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	400 µg/ml
Hexachlorobenzene CAS: [118-74-1]	1 µg/ml

DESCRIPTION	CONCENTRATION
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	1 µg/ml
Hexachlorocyclopentadiene CAS: [77-47-4]	1 µg/ml
Hexachloroethane CAS: [67-72-1]	1 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	100 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Iso-octane
- Art. No.: **PS50910001**

## EPA 614 Determination of Organophosphorus Pesticides in Municipal and Industrial Wastewater

Determination of Organophosphorus Pesticides in Municipal and Industrial Wastewater. This is a gas chromatographic (GC/NPD or GC/MS) method applicable to the determination of certain organophosphorus pesticides in industrial and municipal discharges as provided under 40 CFR 136.1.

### OPP Standard Solution - 8 components

DESCRIPTION	CONCENTRATION
Azinphos-methyl CAS: [86-50-0]	200 µg/ml
Demeton (O+S) CAS: [8065-48-3]	200 µg/ml
Diazinon CAS: [333-41-5]	200 µg/ml
Disulfoton CAS: [298-04-4]	200 µg/ml

DESCRIPTION	CONCENTRATION
Ethion CAS: [563-12-2]	200 µg/ml
Malathion CAS: [121-75-5]	200 µg/ml
Parathion (Parathion-ethyl) CAS: [56-38-2]	200 µg/ml
Parathion-methyl CAS: [298-00-0]	200 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Acetone
- Art. No.: **PS52350001**

## EPA 614.1 Determination of Organophosphorus Pesticides in Municipal and Industrial Wastewater

Determination of Organophosphorus Pesticides in Municipal and Industrial Wastewater. This method covers the determination by GC/NPD or GC/MS of certain organophosphorus pesticides in municipal and industrial wastewater.

### OPP Standard Solution - 4 components

DESCRIPTION	CONCENTRATION
Dioxathion CAS: [78-34-2]	200 µg/ml
EPN CAS: [2104-64-5]	200 µg/ml

DESCRIPTION	CONCENTRATION
Ethion CAS: [563-12-2]	200 µg/ml
Terbufos CAS: [13071-79-9]	200 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS52360001**

DESCRIPTION	CONCENTRATION
Dioxathion CAS: [78-34-2]	10 µg/ml
EPN CAS: [2104-64-5]	200 µg/ml

DESCRIPTION	CONCENTRATION
Ethion CAS: [563-12-2]	100 µg/ml
Terbufos CAS: [13071-79-9]	4 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS52370001**

## EPA 615 Determination of Chlorinated Herbicides in Municipal and Industrial Wastewater

Determination of Chlorinated Herbicides in Municipal and Industrial Wastewater. This is a gas chromatographic (GC/ECD or GC/MS) method applicable to the determination of certain chlorinated herbicides, as well as of salts and esters of these compounds in industrial and municipal discharges as provided under 40 CFR 136.1.

### Chlorinated Herbicides Mixture - 10 components

DESCRIPTION	CONCENTRATION
2,4-D CAS: [94-75-7]	100 µg/ml
Dalapon CAS: [75-99-0]	100 µg/ml
2,4-DB CAS: [94-82-6]	100 µg/ml
Dicamba CAS: [1918-00-9]	100 µg/ml
Dichlorprop CAS: [120-36-5]	100 µg/ml

DESCRIPTION	CONCENTRATION
Dinoseb CAS: [88-85-7]	100 µg/ml
MCPA CAS: [94-74-6]	10000 µg/ml
Mecoprop (MCP) CAS: [7085-19-0]	10000 µg/ml
Fenoprop (2,4,5-TP) CAS: [93-72-1]	10000 µg/ml
2,4,5-T CAS: [93-76-5]	10000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52380001**

### Methylated Chlorinated Herbicides Mixture - 10 components

DESCRIPTION	CONCENTRATION
2,4-D methyl ester CAS: [1928-38-7]	100 µg/ml
Dalapon methyl ester CAS: [17640-02-7]	100 µg/ml
2,4-DB methyl ester CAS: [18625-12-2]	100 µg/ml
Dicamba-methyl ester CAS: [6597-78-0]	100 µg/ml
Dichlorprop methyl ester CAS: [57153-17-0]	100 µg/ml

DESCRIPTION	CONCENTRATION
Dinoseb methyl ether CAS: [6099-79-2]	100 µg/ml
MCPA-methyl ester CAS: [2436-73-9]	10000 µg/ml
Mecoprop-methyl ester CAS: [23844-56-6]	10000 µg/ml
Fenoprop-methyl ester (2,4,5-TP) CAS: [4841-20-7]	10000 µg/ml
2,4,5-T methyl ester CAS: [1928-37-6]	10000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52390001**

## EPA 617 Determination of Organohalide Pesticides and PCBs in Municipal and Industrial Wastewater

Determination of Organohalide Pesticides and PCBs in Municipal and Industrial Wastewater. This is a gas chromatographic (GC) method applicable to the determination of certain organohalide pesticides and PCBs in industrial and municipal discharges as provided under 40 CFR 136.1.

### OCs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Chlordane (technical) CAS: [57-74-9]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52420001**

DESCRIPTION	CONCENTRATION
Toxaphene CAS: [8001-35-2]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52430001**



### OCs Standard Solution - 18 components

DESCRIPTION	CONCENTRATION
Aldrin CAS: [309-00-2]	1000 µg/ml
Alpha-HCH (alpha-BHC) CAS: [319-84-6]	1000 µg/ml
Beta-HCH (beta-BHC) CAS: [319-85-7]	1000 µg/ml
Gamma-HCH (Lindane) (gamma-BHC) CAS: [58-89-9]	1000 µg/ml
Delta-HCH (delta-BHC) CAS: [319-86-8]	1000 µg/ml
4,4'-DDD (TDE) CAS: [72-54-8]	1000 µg/ml
4,4'-DDE CAS: [72-55-9]	1000 µg/ml
4,4'-DDT CAS: [50-29-3]	1000 µg/ml
Dieldrin CAS: [60-57-1]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Endosulfan-alpha (Endosulfan I) CAS: [959-98-8]	1000 µg/ml
Endosulfan-beta (Endosulfan II) CAS: [33213-65-9]	1000 µg/ml
Endosulfan-total (sulfate) CAS: [1031-07-8]	1000 µg/ml
Endrin CAS: [72-20-8]	1000 µg/ml
Endrin ketone CAS: [53494-70-5]	1000 µg/ml
Endrin aldehyde CAS: [7421-93-4]	1000 µg/ml
Heptachlor CAS: [76-44-8]	1000 µg/ml
Heptachlor-exo-epoxide (cis-Heptachlorepoxide (cis-, exo-,) CAS: [1024-57-3]	1000 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52400001**

### OCs Standard Solution - 9 components

DESCRIPTION	CONCENTRATION
Captan CAS: [133-06-2]	1000 µg/ml
Carbophenothion CAS: [786-19-6]	1000 µg/ml
Dicloran CAS: [99-30-9]	1000 µg/ml
Dicofol CAS: [115-32-2]	1000 µg/ml
Isodrin CAS: [465-73-6]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Mirex CAS: [2385-85-5]	1000 µg/ml
Quintozene CAS: [82-68-8]	1000 µg/ml
Perthane CAS: [72-56-0]	1000 µg/ml
Trifluralin CAS: [1582-09-8]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52410001**

### PCBs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Aroclor 1016 CAS: [12674-11-2]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52440001**

DESCRIPTION	CONCENTRATION
Aroclor 1221 (pcb 1221) CAS: [11104-28-2]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52450001**

DESCRIPTION	CONCENTRATION
Aroclor 1232 (pcb 1232) CAS: [11141-16-5]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52460001**

DESCRIPTION	CONCENTRATION
Aroclor 1242 (PCB 1242) CAS: [53469-21-9]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52470001**

DESCRIPTION	CONCENTRATION
Aroclor 1248 (pcb 1248) CAS: [12672-29-6]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52480001**

DESCRIPTION	CONCENTRATION
Aroclor 1260 (PCB 1260) CAS: [11096-82-5]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52490001**

## EPA 619 Determination of Triazine Pesticides in Municipal and Industrial Wastewater

Determination of Triazine Pesticides in Municipal and Industrial Wastewater. This is a gas chromatographic (GC/NPD or GC/MS) method applicable to the determination of certain triazine pesticides in industrial and municipal discharges as provided under 40 CFR 136.1.

### NCC Standard Solution - 11 components

DESCRIPTION	CONCENTRATION
Ametryn CAS: [834-12-8]	100 µg/ml
Atraton CAS: [1610-17-9]	100 µg/ml
Atrazine CAS: [1912-24-9]	100 µg/ml
Prometon CAS: [1610-18-0]	100 µg/ml
Prometryn CAS: [7287-19-6]	100 µg/ml
Propazine CAS: [139-40-2]	100 µg/ml

DESCRIPTION	CONCENTRATION
Sebumeton CAS: [26259-45-0]	100 µg/ml
Simetryn CAS: [1014-70-6]	100 µg/ml
Simazine CAS: [122-34-9]	100 µg/ml
Terbuthylazine CAS: [5915-41-3]	100 µg/ml
Terbutryn CAS: [886-50-0]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS51080001**

## EPA 622 Determination of Organophosphorus Pesticides in Municipal and Industrial Wastewater

Determination of Organophosphorus Pesticides in Municipal and Industrial Wastewater. This is a gas chromatographic (GC/NPD or GC/MS) method applicable to the determination of certain organophosphorus pesticides in industrial and municipal discharges as provided under 40 CFR 136.

### OPP Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Naled CAS: [300-76-5]	10 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52540001**

### OPP Standard Solution - 21 components

DESCRIPTION	CONCENTRATION
Azinphos-methyl CAS: [86-50-0]	100 µg/ml
Sulprofos (Bolstar) CAS: [35400-43-2]	100 µg/ml
Chlorpyrifos (Chlorpyrifos-ethyl) CAS: [2921-88-2]	100 µg/ml
Chlorpyrifos methyl CAS: [5598-13-0]	100 µg/ml
Coumaphos CAS: [56-72-4]	100 µg/ml
Demeton (O+S) (Demeton) CAS: [8065-48-3]	100 µg/ml
Diazinon CAS: [333-41-5]	100 µg/ml
Dichlorvos CAS: [62-73-7]	100 µg/ml
Disulfoton CAS: [298-04-4]	100 µg/ml
Ethoprophos (ethoprop) CAS: [13194-48-4]	100 µg/ml
Fensulfthion CAS: [115-90-2]	100 µg/ml

DESCRIPTION	CONCENTRATION
Fenthion CAS: [55-38-9]	100 µg/ml
Merphos CAS: [150-50-5]	100 µg/ml
Mevinphos CAS: [7786-34-7]	100 µg/ml
Naled CAS: [300-76-5]	100 µg/ml
Parathion-methyl CAS: [298-00-0]	100 µg/ml
Phorate CAS: [298-02-2]	100 µg/ml
Fenchlorphos (Ronne) CAS: [299-84-3]	100 µg/ml
Tetrachlorvinphos (Stirofos) CAS: [22248-79-9]	100 µg/ml
Prothiophos (Tokuthion) CAS: [34643-46-4]	100 µg/ml
Trichloronat CAS: [327-98-0]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52500001**

### OPP Standard Solution - 3 components

DESCRIPTION	CONCENTRATION
Dichlorvos CAS: [62-73-7]	10 µg/ml
Mevinphos (Phosdrin) CAS: [7786-34-7]	30 µg/ml

DESCRIPTION	CONCENTRATION
cis-Tetrachlorvinphos CAS: [961-11-5]	500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52520001**

### OPP Standard Solution - 7 components

DESCRIPTION	CONCENTRATION
Ethoprophos (ethoprop) CAS: [13194-48-4]	25 µg/ml
Parathion-methyl CAS: [298-00-0]	30 µg/ml
Fenchlorphos (Ronne) CAS: [299-84-3]	30 µg/ml
Chlorpyrifos methyl CAS: [5598-13-0]	30 µg/ml

DESCRIPTION	CONCENTRATION
Chlorpyrifos (Chlorpyrifos-ethyl) CAS: [2921-88-2]	30 µg/ml
Merphos CAS: [150-50-5]	25 µg/ml
Diazinon CAS: [333-41-5]	60 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52530001**

### OPP Standard Solution - 9 components

DESCRIPTION	CONCENTRATION
Fensulfthion CAS: [115-90-2]	150 µg/ml
Azinphos-methyl CAS: [86-50-0]	150 µg/ml
Coumaphos CAS: [56-72-4]	150 µg/ml
Demeton (O+S) CAS: [8065-48-3]	25 µg/ml
Phorate CAS: [298-02-2]	15 µg/ml

DESCRIPTION	CONCENTRATION
Disulfoton CAS: [298-04-4]	20 µg/ml
Trichloronat CAS: [327-98-0]	15 µg/ml
Fenthion CAS: [55-38-9]	10 µg/ml
Prothiophos (Tokuthion) CAS: [34643-46-4]	50 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS52510001**

## EPA 622.1 Determination of Thiophosphate Pesticides in Municipal and Industrial Wastewater

Determination of Thiophosphate Pesticides in Municipal and Industrial Wastewater. This is a gas chromatographic (GC/NPD or GC/MS) method applicable to the determination of certain thiophosphate pesticides in municipal and industrial discharges as provided under 40 CFR 136.1.

### OPP Standard Solution - 7 components

DESCRIPTION	CONCENTRATION
Aspon CAS: [3244-90-4]	1000 µg/ml
Dichlofenthion CAS: [97-17-6]	1000 µg/ml
Famphur CAS: [52-85-7]	1000 µg/ml
Fenitrothion CAS: [122-14-5]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Fonofos CAS: [944-22-9]	1000 µg/ml
Phosmet CAS: [732-11-6]	1000 µg/ml
Thionazin CAS: [297-97-2]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methyl tert-butyl ether
- **Art. No.:** **PS52550001**

## EPA 624 Purgeables

Purgeables. This is a purge and trap gas chromatographic/mass spectrometer (GC/MS) method applicable to the determination of a number of purgeable organics in municipal and industrial discharges as provided under 40 CFR Part 136.1.

### VOC Standard Solution - 31 components

DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	20 µg/ml
Bromodichloromethane CAS: [75-27-4]	20 µg/ml
Tribromomethane (Bromoform) CAS: [75-25-2]	20 µg/ml
Bromomethane CAS: [74-83-9]	20 µg/ml
Tetrachloromethane (Carbon tetrachloride) CAS: [56-23-5]	20 µg/ml
Chlorobenzene CAS: [108-90-7]	20 µg/ml
Chloroethane CAS: [75-00-3]	20 µg/ml
2-Chloroethyl-vinylether CAS: [110-75-8]	20 µg/ml
Chloroform CAS: [67-66-3]	20 µg/ml
Chloromethane CAS: [74-87-3]	20 µg/ml
Dibromochloromethane CAS: [124-48-1]	20 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	20 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	20 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	20 µg/ml
1,1-Dichloroethane CAS: [75-34-3]	20 µg/ml
1,2-Dichloroethane CAS: [107-06-2]	20 µg/ml

DESCRIPTION	CONCENTRATION
1,1-Dichloroethene CAS: [75-35-4]	20 µg/ml
trans-1,2-Dichloroethene CAS: [156-60-5]	20 µg/ml
1,2-Dichloropropane CAS: [78-87-5]	20 µg/ml
cis-1,3-Dichloropropene CAS: [10061-01-5]	20 µg/ml
trans-1,3-Dichloropropene CAS: [10061-02-6]	20 µg/ml
Ethylbenzene CAS: [100-41-4]	20 µg/ml
Dichloromethane (Methylene chloride) CAS: [75-09-2]	20 µg/ml
1,1,2,2-Tetrachloroethane CAS: [79-34-5]	20 µg/ml
Tetrachloroethene CAS: [127-18-4]	20 µg/ml
Toluene CAS: [108-88-3]	20 µg/ml
1,1,1-Trichloroethane CAS: [71-55-6]	20 µg/ml
1,1,2-Trichloroethane CAS: [79-00-5]	20 µg/ml
Trichloroethene CAS: [79-01-6]	20 µg/ml
Fluorotrichloromethane (Trichlorofluoromethane) CAS: [75-69-4]	20 µg/ml
Vinylchloride CAS: [75-01-4]	20 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** **PS52570001**

### VOC Surrogate and Internal Mixture - 3 components

DESCRIPTION	CONCENTRATION
4-Bromofluorobenzene CAS: [460-00-4]	20000 µg/ml
Fluorobenzene CAS: [462-06-6]	20000 µg/ml

DESCRIPTION	CONCENTRATION
Pentafluorobenzene CAS: [363-72-4]	20000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50430001**

DESCRIPTION	CONCENTRATION
Bromochloromethane CAS: [74-97-5]	2000 µg/ml
2-Bromo-1-chloropropane CAS: [3017-95-6]	2000 µg/ml

DESCRIPTION	CONCENTRATION
1,4-Dichlorobutane CAS: [110-56-5]	2000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50400001**

## EPA 625 Base/neutrals and acids

Base/neutrals and acids. This method covers the determination of a number of organic compounds that are partitioned into an organic solvent and are amenable to gas chromatography.

### Base/Neutral Extractables Mixture - 44 components

DESCRIPTION	CONCENTRATION
Acenaphthene CAS: [83-32-9]	2000 µg/ml
Acenaphthylene CAS: [208-96-8]	2000 µg/ml
Anthracene CAS: [120-12-7]	2000 µg/ml
Azobenzene CAS: [103-33-3]	2000 µg/ml
Benzo(a)anthracene CAS: [56-55-3]	2000 µg/ml
Benzo(b)fluoranthene CAS: [205-99-2]	2000 µg/ml
Benzo(k)fluoranthene CAS: [207-08-9]	2000 µg/ml
Benzo(g,h,i)perylene CAS: [191-24-2]	2000 µg/ml
Benzo(a)pyrene CAS: [50-32-8]	2000 µg/ml
Bis-(2-chloroethyl)-ether CAS: [111-44-4]	2000 µg/ml
Bis-(2-chloroethoxy)-methane CAS: [111-91-1]	2000 µg/ml
Phthalic acid,bis-2-ethylhexylester (Bis(2-ethylhexyl)phthalate) CAS: [117-81-7]	2000 µg/ml
Bis-(2-chloro-1-methylethyl)ether (bis(2-Chloroisopropyl)ether) CAS: [108-60-1]	2000 µg/ml
BDE 3 (4-bromophenyl phenyl ether) CAS: [101-55-3]	2000 µg/ml
Phthalic acid, benzylbutyl ester (Butyl benzyl phthalate) CAS: [85-68-7]	2000 µg/ml
2-Chloronaphthalene CAS: [91-58-7]	2000 µg/ml
4-Chlorophenyl phenyl ether CAS: [7005-72-3]	2000 µg/ml
Chrysene CAS: [218-01-9]	2000 µg/ml
Dibenzo(a,h)anthracene CAS: [53-70-3]	2000 µg/ml
Phthalic acid, bis-butyl ester (Di-n-butylphthalate) CAS: [84-74-2]	2000 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	2000 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	2000 µg/ml

DESCRIPTION	CONCENTRATION
1,4-Dichlorobenzene CAS: [106-46-7]	2000 µg/ml
Phthalic acid, bis-ethyl ester (Diethyl phthalate) CAS: [84-66-2]	2000 µg/ml
Phthalic acid, bis-methyl ester (Dimethyl phthalate) CAS: [131-11-3]	2000 µg/ml
2,4-Dinitrotoluene CAS: [121-14-2]	2000 µg/ml
2,6-Dinitrotoluene CAS: [606-20-2]	2000 µg/ml
Phthalic acid, bis-1-octyl ester (di-n-octyl phthalate) CAS: [117-84-0]	2000 µg/ml
Fluoranthene CAS: [206-44-0]	2000 µg/ml
Fluorene CAS: [86-73-7]	2000 µg/ml
Hexachlorobenzene CAS: [118-74-1]	2000 µg/ml
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	2000 µg/ml
Hexachlorocyclopentadiene CAS: [77-47-4]	2000 µg/ml
Hexachloroethane CAS: [67-72-1]	2000 µg/ml
Indeno(1,2,3-c,d)pyrene CAS: [193-39-5]	2000 µg/ml
Isophorone CAS: [78-59-1]	2000 µg/ml
Naphthalene CAS: [91-20-3]	2000 µg/ml
Nitrobenzene CAS: [98-95-3]	2000 µg/ml
N-Nitroso-dimethylamine CAS: [62-75-9]	2000 µg/ml
N-Nitroso-di-n-propylamine (N-nitrosodi-n-propylamine) CAS: [621-64-7]	2000 µg/ml
N-Nitroso-diphenylamine CAS: [86-30-6]	2000 µg/ml
Phenanthrene CAS: [85-01-8]	2000 µg/ml
Pyrene CAS: [129-00-0]	2000 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	2000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane / Benzene / Acetonitrile (2/2/1)
- **Art. No.:** **PS50590001**

### Organochlorine Pesticide Mixture - 16 components

DESCRIPTION	CONCENTRATION
Aldrin CAS: [309-00-2]	2000 µg/ml
Alpha-HCH (alpha-BHC) CAS: [319-84-6]	2000 µg/ml
Beta-HCH (beta-BHC) CAS: [319-85-7]	2000 µg/ml
Delta-HCH (delta-BHC) CAS: [319-86-8]	2000 µg/ml
Gamma-HCH (Lindane) (gamma-BHC) CAS: [58-89-9]	2000 µg/ml
4,4'-DDD (TDE) CAS: [72-54-8]	2000 µg/ml
4,4'-DDE CAS: [72-55-9]	2000 µg/ml
4,4'-DDT CAS: [50-29-3]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Dieldrin CAS: [60-57-1]	2000 µg/ml
Endosulfan-alpha (Endosulfan I) CAS: [959-98-8]	2000 µg/ml
Endosulfan-beta (Endosulfan II) CAS: [33213-65-9]	2000 µg/ml
Endosulfan-total (sulfate) CAS: [1031-07-8]	2000 µg/ml
Endrin CAS: [72-20-8]	2000 µg/ml
Endrin aldehyde CAS: [7421-93-4]	2000 µg/ml
Heptachlor CAS: [76-44-8]	2000 µg/ml
Heptachlor-exo-epoxide (cis-Heptachlorepoide (cis-, exo-) CAS: [1024-57-3]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane / Toluene (1/1)
- **Art. No.:** **PS50810001**

### Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Pentafluorophenol CAS: [771-61-9]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS53740001**

### Surrogate Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Anthracene D10 CAS: [1719-06-8]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS53730001**

DESCRIPTION	CONCENTRATION
2-Fluorophenol CAS: [367-12-4]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS53720001**

## EPA 627 Determination of Dinitroaniline Pesticides in Municipal and Industrial Wastewater

Determination of Dinitroaniline Pesticides in Municipal and Industrial Wastewater. This is a gas chromatographic (GC) method applicable to the determination of certain dinitroaniline pesticides in industrial and municipal discharges as provided under 40 CFR 136.1.

### Standard Solution - 5 components

DESCRIPTION	CONCENTRATION
Benfluralin CAS: [1861-40-1]	1000 µg/ml
Ethalfuralin CAS: [55283-68-6]	1000 µg/ml
Isopropalin CAS: [33820-53-0]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Profuralin CAS: [26399-36-0]	1000 µg/ml
Trifluralin CAS: [1582-09-8]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS52580001**

See complete range of standards in this QR code



Complete range of standards classified according to ASTM Methods, ISO Methods, EN Standards, contaminant standards, single component solutions and Neat standards.

## EPA 632 Determination of Carbamate and Urea Pesticides in Municipal and Industrial Wastewater

Determination of Carbamate and Urea Pesticides in Municipal and Industrial Wastewater. This is a high-performance liquid chromatographic (HPLC) method applicable to the determination of certain carbamate and urea pesticides in industrial and municipal discharges as provided under 40 CFR 136.1.

### Carbamates Standard Solution - 21 components

DESCRIPTION	CONCENTRATION
Aminocarb CAS: [2032-59-9]	100 µg/ml
Barban CAS: [101-27-9]	100 µg/ml
Carbaryl CAS: [63-25-2]	100 µg/ml
Carbofuran CAS: [1563-66-2]	100 µg/ml
Chlorpropham CAS: [101-21-3]	100 µg/ml
Diuron CAS: [330-54-1]	100 µg/ml
Fenuron CAS: [101-42-8]	100 µg/ml
Fenuron TCA CAS: [4482-55-7]	100 µg/ml
Fluometuron CAS: [2164-17-2]	100 µg/ml
Linuron CAS: [330-55-2]	100 µg/ml
Methiocarb CAS: [2032-65-7]	100 µg/ml

DESCRIPTION	CONCENTRATION
Methomyl CAS: [16752-77-5]	100 µg/ml
Mexacarbate CAS: [315-18-4]	100 µg/ml
Monuron CAS: [150-68-5]	100 µg/ml
Monuron TCA CAS: [140-41-0]	100 µg/ml
Neburon CAS: [555-37-3]	100 µg/ml
Oxamyl CAS: [23135-22-0]	100 µg/ml
Propham CAS: [122-42-9]	100 µg/ml
Propoxur CAS: [114-26-1]	100 µg/ml
Siduron CAS: [1982-49-6]	100 µg/ml
Sweep CAS: [1918-18-9]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** PS52590001

## EPA 632.1 Determination of Carbamate and Amide Pesticides in Municipal and Industrial Wastewater

Determination of Carbamate and Amide Pesticides in Municipal and Industrial Wastewater. This is a high-performance liquid chromatographic (HPLC) method applicable to the determination of certain carbamate/amide pesticides in municipal and industrial discharges.

### Carbamates Standard Solution - 2 components

DESCRIPTION	CONCENTRATION
Napropamide CAS: [15299-99-7]	100 µg/ml

DESCRIPTION	CONCENTRATION
Propanil CAS: [709-98-8]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile / Acetone (1/1)
- **Art. No.:** PS52600001

## EPA 633 Determination of Organonitrogen Pesticides in Municipal and Industrial Wastewater

Determination of Organonitrogen Pesticides in Municipal and Industrial Wastewater. This is a gas chromatographic (GC/NPD or GC/MS) method applicable to the determination of certain organonitrogen pesticides in industrial and municipal discharges as provided under 40 CFR 136.1.

### NCC Standard Solution - 7 components

DESCRIPTION	CONCENTRATION
Bromacil CAS: [314-40-9]	100 µg/ml
Deet CAS: [134-62-3]	100 µg/ml
Hexazinone CAS: [51235-04-2]	100 µg/ml
Metribuzin CAS: [21087-64-9]	100 µg/ml

DESCRIPTION	CONCENTRATION
Terbacil CAS: [5902-51-2]	100 µg/ml
Triadimefon CAS: [43121-43-3]	100 µg/ml
Tricyclazole CAS: [41814-78-2]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS51090001

## EPA 634 Thiocarbamate Pesticides

Thiocarbamate Pesticides. This is a gas chromatographic (GC/NPD or GC/MS) method applicable to the determination of thiocarbamate pesticides in industrial and municipal wastewaters.

### Carbamates Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Carbazole CAS: [86-74-8]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS52610001

### Carbamates Standard Solution - 6 components

DESCRIPTION	CONCENTRATION
Butylate CAS: [2008-41-5]	1000 µg/ml
Cycloate CAS: [1134-23-2]	1000 µg/ml
EPTC CAS: [759-94-4]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Molinate CAS: [2212-67-1]	1000 µg/ml
Pebulate CAS: [1114-71-2]	1000 µg/ml
Vernolate CAS: [1929-77-7]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51100001**

### Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Rotenone CAS: [83-79-4]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52620001**

### Standard Solution - 3 components

DESCRIPTION	CONCENTRATION
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	2000 µg/ml
1,2-Dibromoethane CAS: [106-93-4]	2000 µg/ml

DESCRIPTION	CONCENTRATION
1,2,3-Trichloropropane CAS: [96-18-4]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS51450001**

## EPA 636 Bensulide

Bensulide. This is a high-performance liquid chromatographic (HPLC) method applicable to the determination of Bensulide pesticide in industrial and municipal discharges as provided under 40 CFR 136.1.

### OPP Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Bensulide CAS: [741-58-2]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52630001**

## EPA 638 Oryzalin

Oryzalin. This is a high-performance liquid chromatographic (HPLC) method applicable to the determination of Oryzalin pesticide in industrial and municipal discharges as provided under 40 CFR 136.1.

### Carbamates Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Bendiocarb CAS: [22781-23-3]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52650001**

### NCC Standard Solution - 1 componen

DESCRIPTION	CONCENTRATION
Oryzalin CAS: [19044-88-3]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52640001**

## EPA 641 Thiabendazole

Thiabendazole. This is a high-performance liquid chromatographic (HPLC) method applicable to the determination of Thiabendazole in industrial and municipal discharges as provided under 40 CFR 136.1.

### NCC Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Thiabendazole CAS: [148-79-8]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52660001**



## EPA 642 Biphenyl and 2-Biphenylol

Biphenyl and 2-Biphenylol. This is a high-performance liquid chromatographic (HPLC) method applicable to the determination of Biphenyl and o-Biphenylol in industrial and municipal wastewaters.

### ACs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
2-Phenylphenol (o-Phenylphenol) CAS: [90-43-7]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52680001**

DESCRIPTION	CONCENTRATION
Biphenyl CAS: [92-52-4]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS52670001**

## EPA 643 Bentazon

Bentazon. This is a high-performance liquid chromatographic (HPLC) method applicable to the determination of Bentazon in industrial and municipal wastewaters.

### NCC Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Bentazone CAS: [25057-89-0]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS52690001**

## EPA 644 Picloram

Picloram. This is a high-performance liquid chromatographic (HPLC) method applicable to the determination of Picloram in industrial and municipal wastewaters.

### Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Salicylic acid CAS: [69-72-7]	2000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** 2- Propanol
- **Art. No.:** **PS50260001**

DESCRIPTION	CONCENTRATION
Salicylic acid CAS: [69-72-7]	2000 µg/ml

- **Vol.** 5ml
- **Packaging:** Ampoule
- **Solvent:** 2- Propanol
- **Art. No.:** **PS50270005**

### NCC Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Picloram CAS: [1918-02-1]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS52700001**

## EPA METHODS 1300 SERIES

### EPA 1311 Toxicity Characteristic Leaching Procedure

Toxicity characteristic leaching procedure. The TCLP is designed to determine the mobility of both organic and inorganic analytes present in liquid, solid, and multiphasic wastes.

### TCLP Acids Mixture - 6 components

DESCRIPTION	CONCENTRATION
2-Methylphenol CAS: [95-48-7]	1000 µg/ml
3-Methylphenol CAS: [108-39-4]	1000 µg/ml
4-Methylphenol CAS: [106-44-5]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Pentachlorophenol CAS: [87-86-5]	1000 µg/ml
2,4,5-Trichlorophenol CAS: [95-95-4]	1000 µg/ml
2,4,6-Trichlorophenol CAS: [88-06-2]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50670001**

### TCLP Base/Neutrals Mixture - 7 components

DESCRIPTION	CONCENTRATION
2,4-Dinitrotoluene CAS: [121-14-2]	1000 µg/ml
Hexachlorobenzene CAS: [118-74-1]	1000 µg/ml
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	1000 µg/ml

DESCRIPTION	CONCENTRATION
1,4-Dichlorobenzene CAS: [106-46-7]	1000 µg/ml
Hexachloroethane CAS: [67-72-1]	1000 µg/ml
Nitrobenzene CAS: [98-95-3]	1000 µg/ml
Pyridine CAS: [110-86-1]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS52710001**

### TCLP Herbicides Spiking Mixture - 2 components

DESCRIPTION	CONCENTRATION
2,4-D CAS: [94-75-7]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Fenoprop (Silvex) CAS: [93-72-1]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50730001**

### TCLP Methylated Herbicides Spiking Mixture - 2 components

DESCRIPTION	CONCENTRATION
2,4-D methyl ester CAS: [1928-38-7]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Fenoprop-methyl ester (Silvex methyl ester) CAS: [4841-20-7]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50770001**

### TCLP Pesticides Mixture - 5 components

DESCRIPTION	CONCENTRATION
Gamma-HCH (Lindane) CAS: [58-89-9]	100 µg/ml
Heptachlor CAS: [76-44-8]	100 µg/ml
Heptachlor-exo-epoxide (cis-Heptachlorepoxyde (cis-, exo-)) CAS: [1024-57-3]	100 µg/ml

DESCRIPTION	CONCENTRATION
Endrin CAS: [72-20-8]	100 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52730001**

### TCLP Pesticides Spiking Mixture - 2 components

DESCRIPTION	CONCENTRATION
Chlordane (technical) CAS: [57-74-9]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Toxaphene CAS: [8001-35-2]	4000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50720001**

### TCLP Pesticides Spiking Mixture - 5 components

DESCRIPTION	CONCENTRATION
Endrin CAS: [72-20-8]	2000 µg/ml
Heptachlor CAS: [76-44-8]	2000 µg/ml
Heptachlor-exo-epoxide (cis-Heptachlorepoxyde (cis-, exo-)) CAS: [1024-57-3]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Gamma-HCH (Lindane) CAS: [58-89-9]	2000 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52740001**

### TCLP Pesticides Spiking Mixture - 7 components

DESCRIPTION	CONCENTRATION
Chlordane (technical) CAS: [57-74-9]	2000 µg/ml
Endrin CAS: [72-20-8]	2000 µg/ml
Heptachlor CAS: [76-44-8]	2000 µg/ml
Heptachlor-exo-epoxide (cis-Heptachlorepoxyde (cis-, exo-)) CAS: [1024-57-3]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Gamma-HCH (Lindane) CAS: [58-89-9]	2000 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	2000 µg/ml
Toxaphene CAS: [8001-35-2]	4000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50690001**

### TCLP Semi-Volatile Spiking Mixture - 13 components

DESCRIPTION	CONCENTRATION
2-Methylphenol CAS: [95-48-7]	2000 µg/ml
3-Methylphenol CAS: [108-39-4]	2000 µg/ml
4-Methylphenol CAS: [106-44-5]	2000 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	2000 µg/ml
2,4-Dinitrotoluene CAS: [121-14-2]	2000 µg/ml
Hexachlorobenzene CAS: [118-74-1]	2000 µg/ml
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Hexachloroethane CAS: [67-72-1]	2000 µg/ml
Nitrobenzene CAS: [98-95-3]	2000 µg/ml
Pentachlorophenol CAS: [87-86-5]	2000 µg/ml
Pyridine CAS: [110-86-1]	2000 µg/ml
2,4,5-Trichlorophenol CAS: [95-95-4]	2000 µg/ml
2,4,6-Trichlorophenol CAS: [88-06-2]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS50660001**

### TCLP Volatiles Mixture - 11 components

DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	1000 µg/ml
2-Butanone CAS: [78-93-3]	1000 µg/ml
Tetrachloromethane CAS: [56-23-5]	1000 µg/ml
Chlorobenzene CAS: [108-90-7]	1000 µg/ml
Chloroform CAS: [67-66-3]	1000 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	1000 µg/ml

DESCRIPTION	CONCENTRATION
1,2-Dichloroethane CAS: [107-06-2]	1000 µg/ml
1,1-Dichloroethene CAS: [75-35-4]	1000 µg/ml
Tetrachloroethene CAS: [127-18-4]	1000 µg/ml
Trichloroethene CAS: [79-01-6]	1000 µg/ml
Vinylchloride CAS: [75-01-4]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50650001**

### EPA 1312 Synthetic precipitation leaching procedure

Synthetic precipitation leaching procedure. Method 1312 is designed to determine the mobility of both organic and inorganic analytes present in liquids, soils and wastes.

### OCs / ACs / VOC Standard Solution - 14 components

DESCRIPTION	CONCENTRATION
Acenaphthene CAS: [83-32-9]	2000 µg/ml
Beta-HCH CAS: [319-85-7]	2000 µg/ml
Gamma-HCH (Lindane) CAS: [58-89-9]	2000 µg/ml
Bis-(2-chloroethyl)-ether CAS: [111-44-4]	2000 µg/ml
2-Chlorophenol CAS: [95-57-8]	2000 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	2000 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	2000 µg/ml

DESCRIPTION	CONCENTRATION
2,4-Dinitrophenol CAS: [51-28-5]	2000 µg/ml
2,4-Dinitrotoluene CAS: [121-14-2]	2000 µg/ml
2-Methylphenol (o-Cresol) CAS: [95-48-7]	2000 µg/ml
2,4-Dimethylphenol CAS: [105-67-9]	2000 µg/ml
Hexachlorobenzene CAS: [118-74-1]	2000 µg/ml
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	2000 µg/ml
Nitrobenzene CAS: [98-95-3]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS52750001**

## EPA METHODS 8000 SERIES

The EPA 8000 methods are designed for monitoring organic pollutants in ground water, as prescribed in the Resource Conservation and Recovery Act (RCRA).

### EPA 8010 Halogenated volatile organics by GC

Halogenated volatile organics by GC. Method 8010 provides gas chromatographic conditions for the detection of halogenated volatile organic compounds. Samples can be introduced into the GC using direct injection or purge-and-trap (Method 5030). Ground water samples must be analyzed using Method 5030. A temperature program is used in the gas chromatograph to separate the organic compounds. Detection is achieved by an electrolytic conductivity detector (HECD).

### EPA 8010 Halogenated VOC Mix - 14 components

DESCRIPTION	CONCENTRATION
Tribromomethane (Bromoform) CAS: [75-25-2]	2000 µg/ml
Tetrachloromethane (Carbon tetrachloride) CAS: [56-23-5]	2000 µg/ml
Chloroform CAS: [67-66-3]	2000 µg/ml
Dibromomethane CAS: [74-95-3]	2000 µg/ml
1,1-Dichloroethane CAS: [75-34-3]	2000 µg/ml
1,2-Dichloroethane CAS: [107-06-2]	2000 µg/ml
1,2-Dichloropropane CAS: [78-87-5]	2000 µg/ml

DESCRIPTION	CONCENTRATION
1,1,1,2-Tetrachloroethane CAS: [630-20-6]	2000 µg/ml
1,1,2,2-Tetrachloroethane CAS: [79-34-5]	2000 µg/ml
Tetrachloroethene CAS: [127-18-4]	2000 µg/ml
1,1,1-Trichloroethane CAS: [71-55-6]	2000 µg/ml
1,1,2-Trichloroethane CAS: [79-00-5]	2000 µg/ml
Trichloroethene CAS: [79-01-6]	2000 µg/ml
1,2,3-Trichloropropane CAS: [96-18-4]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50850001**

### EPA 8010B Halogenated volatile organics by GC

Halogenated volatile organics by GC. Method 8010 provides gas chromatographic conditions for the detection of halogenated volatile organic compounds. Samples can be introduced into the GC using direct injection or purge-and-trap (Method 5030). Ground water samples must be analyzed using Method 5030. A temperature program is used in the gas chromatograph to separate the organic compounds. Detection is achieved by an electrolytic conductivity detector (HECD).

### Ethers Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
2-Chloroethyl-vinylether CAS: [110-75-8]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** **PS50170001**

DESCRIPTION	CONCENTRATION
2-Chloroethyl-vinylether CAS: [110-75-8]	5000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** **PS52780001**

### VOC Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Chloroprene CAS: [126-99-8]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** **PS52790001**

### VOC Standard Solution - 33 components

DESCRIPTION	CONCENTRATION
alpha-Chlorotoluene (Benzylchloride) CAS: [100-44-7]	200 µg/ml
Bromobenzene CAS: [108-86-1]	200 µg/ml
Tribromomethane (Bromoform) CAS: [75-25-2]	200 µg/ml
Bromomethane CAS: [74-83-9]	200 µg/ml
Tetrachloromethane (Carbon tetrachloride) CAS: [56-23-5]	200 µg/ml
Chlorobenzene CAS: [108-90-7]	200 µg/ml
Chloroethane CAS: [75-00-3]	200 µg/ml
Chloroform CAS: [67-66-3]	200 µg/ml
Chloromethane CAS: [74-87-3]	200 µg/ml
Dibromochloromethane CAS: [124-48-1]	200 µg/ml
Dibromomethane CAS: [74-95-3]	200 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	200 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	200 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	200 µg/ml
Bromodichloromethane (Dichlorobromomethane) CAS: [75-27-4]	200 µg/ml
Dichlorodifluoromethane CAS: [75-71-8]	200 µg/ml
1,1-Dichloroethane CAS: [75-34-3]	200 µg/ml

DESCRIPTION	CONCENTRATION
1,2-Dichloroethane CAS: [107-06-2]	200 µg/ml
1,1-Dichloroethene CAS: [75-35-4]	200 µg/ml
trans-1,2-Dichloroethene CAS: [156-60-5]	200 µg/ml
1,2-Dichloropropane CAS: [78-87-5]	200 µg/ml
cis-1,3-Dichloropropene CAS: [10061-01-5]	200 µg/ml
trans-1,3-Dichloropropene CAS: [10061-02-6]	200 µg/ml
Dichloromethane (Methylene chloride) CAS: [75-09-2]	200 µg/ml
1,1,1,2-Tetrachloroethane CAS: [630-20-6]	200 µg/ml
1,1,2,2-Tetrachloroethane CAS: [79-34-5]	200 µg/ml
Tetrachloroethene CAS: [127-18-4]	200 µg/ml
1,1,1-Trichloroethane CAS: [71-55-6]	200 µg/ml
1,1,2-Trichloroethane CAS: [79-00-5]	200 µg/ml
Trichloroethene CAS: [79-01-6]	200 µg/ml
Fluorotrichloromethane (Trichlorofluoromethane) CAS: [75-69-4]	200 µg/ml
1,2,3-Trichloropropane CAS: [96-18-4]	200 µg/ml
Vinylchloride CAS: [75-01-4]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** **PS52760001**

### VOC Standard Solution - 40 components

DESCRIPTION	CONCENTRATION
3-Chloropropene (Allyl chloride) CAS: [107-05-1]	200 µg/ml
Bromobenzene CAS: [108-86-1]	200 µg/ml
Tribromomethane (Bromoform) CAS: [75-25-2]	200 µg/ml
Bromomethane CAS: [74-83-9]	200 µg/ml
Tetrachloromethane (Carbon tetrachloride) CAS: [56-23-5]	200 µg/ml
Chlorobenzene CAS: [108-90-7]	200 µg/ml
Chloroethane CAS: [75-00-3]	200 µg/ml
2-Chloroethanol CAS: [107-07-3]	200 µg/ml
Chloroform CAS: [67-66-3]	200 µg/ml
1-Chlorohexane CAS: [544-10-5]	200 µg/ml
Chloromethane CAS: [74-87-3]	200 µg/ml
4-Chlorotoluene CAS: [106-43-4]	200 µg/ml
Dibromochloromethane CAS: [124-48-1]	200 µg/ml
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	200 µg/ml
Dibromomethane CAS: [74-95-3]	200 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	200 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	200 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	200 µg/ml
Bromodichloromethane (Dichlorobromomethane) CAS: [75-27-4]	200 µg/ml
1,4-Dichloro-2-butene CAS: [764-41-0]	200 µg/ml
Dichlorodifluoromethane CAS: [75-71-8]	200 µg/ml

DESCRIPTION	CONCENTRATION
1,1-Dichloroethane CAS: [75-34-3]	200 µg/ml
1,2-Dichloroethane CAS: [107-06-2]	200 µg/ml
1,1-Dichloroethene CAS: [75-35-4]	200 µg/ml
trans-1,2-Dichloroethene CAS: [156-60-5]	200 µg/ml
1,2-Dichloropropane CAS: [78-87-5]	200 µg/ml
1,3-Dichloropropane-2-ol (1,3-Dichloro-2-propanol) CAS: [96-23-1]	200 µg/ml
cis-1,3-Dichloropropene CAS: [10061-01-5]	200 µg/ml
trans-1,3-Dichloropropene CAS: [10061-02-6]	200 µg/ml
1,2-Dibromoethane CAS: [106-93-4]	200 µg/ml
Dichloromethane (Methylene chloride) CAS: [75-09-2]	200 µg/ml
1,1,1,2-Tetrachloroethane CAS: [630-20-6]	200 µg/ml
1,1,2,2-Tetrachloroethane CAS: [79-34-5]	200 µg/ml
Tetrachloroethene CAS: [127-18-4]	200 µg/ml
1,1,1-Trichloroethane CAS: [71-55-6]	200 µg/ml
1,1,2-Trichloroethane CAS: [79-00-5]	200 µg/ml
Trichloroethene CAS: [79-01-6]	200 µg/ml
Fluorotrichloromethane (Trichlorofluoromethane) CAS: [75-69-4]	200 µg/ml
1,2,3-Trichloropropane CAS: [96-18-4]	200 µg/ml
Vinylchloride CAS: [75-01-4]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52770001**

## EPA 8011 1,2-Dibromoethane and 1,2-dibromo-3chloropropane by microextraction and GC

1,2-Dibromoethane and 1,2-dibromo-3chloropropane by microextraction and GC. This method is applicable to the determination of 1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane in drinking water and ground water.

### Standard Solution - 2 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	200 µg/ml	1,2-Dibromoethane CAS: [106-93-4]	200 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51120001

## EPA 8015A Nonhalogenated organics using GC/FID

Nonhalogenated organics using GC/FID. Method 8015 is used to determine the concentration of various nonhalogenated volatile organic compounds and semivolatile organic compounds by gas chromatography.

### Non-Halogenated Volatiles Mixture - 4 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
Diethylether CAS: [60-29-7]	2000 µg/ml	2-Butanone CAS: [78-93-3]	2000 µg/ml
Ethanol CAS: [64-17-5]	2000 µg/ml	4-Methyl-2-pentanone CAS: [108-10-1]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS51130001

## EPA 8015B Nonhalogenated organics using GC/FID

Nonhalogenated organics using GC/FID. Method 8015 is used to determine the concentration of various nonhalogenated volatile organic compounds and semivolatile organic compounds by gas chromatography.

### VOC Standard Solution - 12 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
Acetonitrile CAS: [75-05-8]	100 µg/ml	2-Methyl-1-propanol (Isobutyl alcohol) CAS: [78-83-1]	100 µg/ml
Acrylamide CAS: [79-06-1]	100 µg/ml	Methacrylonitrile CAS: [126-98-7]	100 µg/ml
2-Butanone (MEK) CAS: [78-93-3]	100 µg/ml	Methacrylic acid-methyl ester (Methyl methacrylate) CAS: [80-62-6]	100 µg/ml
Diethylether CAS: [60-29-7]	100 µg/ml	4-Methyl-2-pentanone (MIBK) CAS: [108-10-1]	100 µg/ml
Dioxan (1,4-Dioxane) CAS: [123-91-1]	100 µg/ml	Propionitrile CAS: [107-12-0]	100 µg/ml
Ethanol CAS: [64-17-5]	100 µg/ml		
Methacrylic acid-ethyl ester (Ethyl methacrylate) CAS: [97-63-2]	100 µg/ml		

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS52800001

## EPA 8020A Aromatic volatile organics by GC

Aromatic volatile organics by GC. Method 8020 provides chromatographic conditions for the detection of aromatic volatile compounds. Samples can be introduced into the GC using direct injection or purge-and-trap (Method 5030). Ground water samples must be determined using Method 5030. A temperature program is used in the gas chromatograph to separate the organic compounds. Detection is achieved by a photo-ionization detector (PID).

### ACs Internal Standard Solution - 2 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
alpha,alpha,alpha-Trifluorotoluene CAS: [98-08-8]	2000 µg/ml	2-Bromofluorobenzene CAS: [1072-85-1]	2000 µg/ml

- Vol. 5ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** PS52820005

### ACs Standard Solution - 10 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	2000 µg/ml	Ethylbenzene CAS: [100-41-4]	2000 µg/ml
Chlorobenzene CAS: [108-90-7]	2000 µg/ml	Toluene CAS: [108-88-3]	2000 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	2000 µg/ml	o-Xylene CAS: [95-47-6]	2000 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	2000 µg/ml	m-Xylene CAS: [108-38-3]	2000 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	2000 µg/ml	p-Xylene CAS: [106-42-3]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** PS50450001

### ACs Standard Solution - 11 components

DESCRIPTION	CONCENTRATION
Benzene CAS: [71-43-2]	100 µg/ml
Chlorobenzene CAS: [108-90-7]	100 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	100 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	100 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	100 µg/ml
Ethylbenzene CAS: [100-41-4]	100 µg/ml

DESCRIPTION	CONCENTRATION
Toluene CAS: [108-88-3]	100 µg/ml
o-Xylene CAS: [95-47-6]	100 µg/ml
m-Xylene CAS: [108-38-3]	100 µg/ml
p-Xylene CAS: [106-42-3]	100 µg/ml
Styrene CAS: [100-42-5]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol purge-and-trap
- **Art. No.:** **PS52810001**

### ACs Surrogate Standard Solution - 3 components

DESCRIPTION	CONCENTRATION
4-Bromochlorobenzene CAS: [106-39-8]	2000 µg/ml
1,4-Difluorobenzene CAS: [540-36-3]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Fluorobenzene CAS: [462-06-6]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50440001**

### Ethers Performance Check Solution - 1 component

DESCRIPTION	CONCENTRATION
Methyl tert-butyl ether CAS: [1634-04-4]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50570001**

## EPA 8021B Aromatic and halogenated volatiles by gas chromatography using photoionization and/or ECD

Method 8021 is used to determine volatile organic compounds in a variety of solid waste matrices. This method is applicable to nearly all types of samples, regardless of water content, including ground water, aqueous sludges, caustic liquors, acid liquors, waste solvents, oily wastes, mousses, tars, fibrous wastes, polymeric emulsions, filter cakes, spent carbons, spent catalysts, soils and sediments.

### VOC Gas Standard Solution - 6 components

DESCRIPTION	CONCENTRATION
Bromomethane CAS: [74-83-9]	200 µg/ml
Chloroethane CAS: [75-00-3]	200 µg/ml
Chloromethane CAS: [74-87-3]	200 µg/ml
Dichlorodifluoromethane CAS: [75-71-8]	200 µg/ml

DESCRIPTION	CONCENTRATION
Fluorotrichloromethane (Trichlorofluoromethane) CAS: [75-69-4]	200 µg/ml
Vinylchloride CAS: [75-01-4]	200 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52850001**

### VOC Surrogate Standard Solution - 2 components

DESCRIPTION	CONCENTRATION
4-Bromochlorobenzene CAS: [106-39-8]	1500 µg/ml

DESCRIPTION	CONCENTRATION
1,4-Dichlorobutane CAS: [110-56-5]	1500 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52840001**

## EPA 8030A Acrolein and acrylonitrile by GC

Acrolein and acrylonitrile by GC. Method 8030 provides gas chromatographic conditions for the detection of the target analytes. Samples can be analyzed using direct injection or purge and-trap (Method 5030). Tenax should be used as the trap packing material. Ground water samples must be analyzed using Method 5030. A temperature program is used in the gas chromatograph to separate the organic compounds. Detection is achieved by a flame ionization detector (FID).

### Carbonyl Compounds Standard Solution - 2 components

DESCRIPTION	CONCENTRATION
Acrolein (2-Propenal) CAS: [107-02-8]	100 µg/ml

DESCRIPTION	CONCENTRATION
Acrylonitrile CAS: [107-13-1]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Water
- **Art. No.:** **PS52860001**

## EPA 8031 Acrylonitrile

Acrylonitrile. Method 8031 is applicable for the determination of Acrylonitrile by gas chromatography.

### Carbonyl Compounds Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Acrylonitrile CAS: [107-13-1]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS50470001**



## EPA 8032 Acrylamide

Acrylamide. Method 8032 is applicable for the determination of trace amounts of Acrylamide monomer in aqueous by gas chromatography with electron capture detection.

### Phthalates Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION	
Phthalic acid, bis-methyl ester (Dimethyl phthalate) CAS: [131-11-3]	100 µg/ml	<ul style="list-style-type: none"> <li>• Vol. 1 ml</li> <li>• Packaging: Ampoule</li> <li>• Solvent: Methanol</li> <li>• Art. No.: <b>PS52870001</b></li> </ul>

### Standard Solution - 1 component

DESCRIPTION	CONCENTRATION	
Acrylamide CAS: [79-06-1]	1000 µg/ml	<ul style="list-style-type: none"> <li>• Vol. 1</li> <li>• Packaging: Ampoule</li> <li>• Solvent: Water</li> <li>• Art. No.: <b>PS50480001</b></li> </ul>

DESCRIPTION	CONCENTRATION	
Acrylamide CAS: [79-06-1]	1000 µg/ml	<ul style="list-style-type: none"> <li>• Vol. 1</li> <li>• Packaging: Ampoule</li> <li>• Solvent: Methanol</li> <li>• Art. No.: <b>PS50500001</b></li> </ul>

## EPA 8033 Acetonitrile

Acetonitrile. Method 8033 is applicable for the determination and concentration of Acetonitrile in aqueous by gas chromatography with nitrogen-phosphorous detection.

### VOC Standard Solution - 1 component

DESCRIPTION	CONCENTRATION	
Acetonitrile CAS: [75-05-8]	100 µg/ml	<ul style="list-style-type: none"> <li>• Vol. 1 ml</li> <li>• Packaging: Ampoule</li> <li>• Solvent: Methanol</li> <li>• Art. No.: <b>PS52880001</b></li> </ul>

## EPA 8041 Phenols by GC

Phenols by GC. Method 8041 describes open-tubular, capillary column gas chromatography procedures for the analysis of phenols, using both single-column and dual-column/dual-detector approaches.

### ACs Internal Standard Solution - 2 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION	
2,5-Dibromotoluene CAS: [615-59-8]	1000 µg/ml	2,2',5,5'-Tetrabromobiphenyl CAS: [59080-37-4]	1000 µg/ml	<ul style="list-style-type: none"> <li>• Vol. 1 ml</li> <li>• Packaging: Ampoule</li> <li>• Solvent: 2- Propanol</li> <li>• Art. No.: <b>PS52920001</b></li> </ul>

### Phenols Standard Solution - 1 component

DESCRIPTION	CONCENTRATION	
2,4-Dibromophenol CAS: [615-58-7]	1000 µg/ml	<ul style="list-style-type: none"> <li>• Vol. 1 ml</li> <li>• Packaging: Ampoule</li> <li>• Solvent: 2- Propanol</li> <li>• Art. No.: <b>PS52910001</b></li> </ul>

DESCRIPTION	CONCENTRATION	
2-Fluorophenol CAS: [367-12-4]	2000 µg/ml	<ul style="list-style-type: none"> <li>• Vol. 1 ml</li> <li>• Packaging: Ampoule</li> <li>• Solvent: Methanol</li> <li>• Art. No.: <b>PS52950001</b></li> </ul>

DESCRIPTION	CONCENTRATION	
Pentafluorophenol CAS: [771-61-9]	2000 µg/ml	<ul style="list-style-type: none"> <li>• Vol. 1 ml</li> <li>• Packaging: Ampoule</li> <li>• Solvent: Methanol</li> <li>• Art. No.: <b>PS52960001</b></li> </ul>

DESCRIPTION	CONCENTRATION	
Phenol D5 CAS: [4165-62-2]	2000 µg/ml	<ul style="list-style-type: none"> <li>• Vol. 1 ml</li> <li>• Packaging: Ampoule</li> <li>• Solvent: Methanol</li> <li>• Art. No.: <b>PS52970001</b></li> </ul>

### Phenols Standard Solution - 17 components

DESCRIPTION	CONCENTRATION
4-Chloro-3-methylphenol CAS: [59-50-7]	100 µg/ml
2-Chlorophenol CAS: [95-57-8]	100 µg/ml
2-Methylphenol (o-Cresol) CAS: [95-48-7]	100 µg/ml
3-Methylphenol (m-Cresol) CAS: [108-39-4]	100 µg/ml
4-Methylphenol (p-Cresol) CAS: [106-44-5]	100 µg/ml
2,4-Dichlorophenol CAS: [120-83-2]	100 µg/ml
2,6-Dichlorophenol CAS: [87-65-0]	100 µg/ml
2,4-Dimethylphenol CAS: [105-67-9]	100 µg/ml
2-Methyl-4,6-dinitrophenol CAS: [534-52-1]	100 µg/ml

DESCRIPTION	CONCENTRATION
2,4-Dinitrophenol CAS: [51-28-5]	100 µg/ml
2-Nitrophenol CAS: [88-75-5]	100 µg/ml
4-Nitrophenol CAS: [100-02-7]	100 µg/ml
Pentachlorophenol CAS: [87-86-5]	100 µg/ml
Phenol CAS: [108-95-2]	100 µg/ml
2,3,4,6-Tetrachlorophenol CAS: [58-90-2]	100 µg/ml
2,4,5-Trichlorophenol CAS: [95-95-4]	100 µg/ml
2,4,6-Trichlorophenol CAS: [88-06-2]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS52940001**

### Phenols Standard Solution - 21 components

DESCRIPTION	CONCENTRATION
Dinoseb CAS: [88-85-7]	100 µg/ml
4-Chloro-3-methylphenol CAS: [59-50-7]	100 µg/ml
2-Chlorophenol CAS: [95-57-8]	100 µg/ml
2-Methylphenol (o-Cresol) CAS: [95-48-7]	100 µg/ml
3-Methylphenol (m-Cresol) CAS: [108-39-4]	100 µg/ml
4-Methylphenol (p-Cresol) CAS: [106-44-5]	100 µg/ml
2-Cyclohexyl-4,6-dinitrophenol CAS: [131-89-5]	100 µg/ml
2,4-Dichlorophenol CAS: [120-83-2]	100 µg/ml
2,6-Dichlorophenol CAS: [87-65-0]	100 µg/ml
2,4-Dimethylphenol CAS: [105-67-9]	100 µg/ml
2-Methyl-4,6-dinitrophenol CAS: [534-52-1]	100 µg/ml

DESCRIPTION	CONCENTRATION
2,4-Dinitrophenol CAS: [51-28-5]	100 µg/ml
2-Nitrophenol CAS: [88-75-5]	100 µg/ml
4-Nitrophenol CAS: [100-02-7]	100 µg/ml
Pentachlorophenol CAS: [87-86-5]	100 µg/ml
Phenol CAS: [108-95-2]	100 µg/ml
2,3,4,5-Tetrachlorophenol CAS: [4901-51-3]	100 µg/ml
2,3,4,6-Tetrachlorophenol CAS: [58-90-2]	100 µg/ml
2,3,5,6-Tetrachlorophenol CAS: [935-95-5]	100 µg/ml
2,4,6-Trichlorophenol CAS: [88-06-2]	100 µg/ml
2,4,5-Trichlorophenol CAS: [95-95-4]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** 2- Propanol
- **Art. No.:** **PS52930001**

### Phenols Standard Solution - 3 components

DESCRIPTION	CONCENTRATION
2-Cyclohexyl-4,6-dinitrophenol CAS: [131-89-5]	2000 µg/ml
2,3,4,5-Tetrachlorophenol CAS: [4901-51-3]	2000 µg/ml

DESCRIPTION	CONCENTRATION
2,3,5,6-Tetrachlorophenol CAS: [935-95-5]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** 2- Propanol
- **Art. No.:** **PS52900001**

### Phenols Standard Solution - 9 components

DESCRIPTION	CONCENTRATION
2-Chlorophenol CAS: [95-57-8]	2000 µg/ml
3-Methylphenol (m-Cresol) CAS: [108-39-4]	2000 µg/ml
4-Methylphenol (p-Cresol) CAS: [106-44-5]	2000 µg/ml
2,6-Dichlorophenol CAS: [87-65-0]	2000 µg/ml
2,4-Dimethylphenol CAS: [105-67-9]	2000 µg/ml

DESCRIPTION	CONCENTRATION
2,4-Dinitrophenol CAS: [51-28-5]	2000 µg/ml
Dinoseb CAS: [88-85-7]	2000 µg/ml
2,3,4,6-Tetrachlorophenol CAS: [58-90-2]	2000 µg/ml
2,4,5-Trichlorophenol CAS: [95-95-4]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** 2- Propanol
- **Art. No.:** **PS50610001**

DESCRIPTION	CONCENTRATION
4-Chloro-3-methylphenol CAS: [59-50-7]	2000 µg/ml
2-Methylphenol (o-Cresol) CAS: [95-48-7]	2000 µg/ml
2,4-Dichlorophenol CAS: [120-83-2]	2000 µg/ml
2-Methyl-4,6-dinitrophenol CAS: [534-52-1]	2000 µg/ml
2-Nitrophenol CAS: [88-75-5]	2000 µg/ml

DESCRIPTION	CONCENTRATION
4-Nitrophenol CAS: [100-02-7]	2000 µg/ml
Pentachlorophenol CAS: [87-86-5]	2000 µg/ml
Phenol CAS: [108-95-2]	2000 µg/ml
2,4,6-Trichlorophenol CAS: [88-06-2]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** 2- Propanol
- **Art. No.:** **PS52890001**

### Phenols Surrogate Standard Mixture - 2 components

DESCRIPTION	CONCENTRATION
2-Fluorophenol CAS: [367-12-4]	2000 µg/ml

DESCRIPTION	CONCENTRATION
2,4,6-Tribromophenol CAS: [118-79-6]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** 2- Propanol
- **Art. No.:** **PS50940001**

## EPA 8061A Phthalate Esters by GC/ECD

Method 8061 is used to determine the identities and concentrations of various phthalate esters in aqueous and solid matrices including groundwater, leachate, soil, sludge and sediment.

### ACs Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Benzyl benzoate CAS: [120-51-4]	5000 µg/ml

- **Vol.** 1
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** PS50990001

### Phthalates Matrix Spike Solution - 2 components

DESCRIPTION	CONCENTRATION
Phthalic acid, benzylbutyl ester (Butyl benzyl phthalate) CAS: [85-68-7]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Phthalic acid, bis-2-ethylhexylester (Bis(2-ethylhexyl)phthalate) CAS: [117-81-7]	2000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS53000001

### Phthalates Standard Solution - 6 components

DESCRIPTION	CONCENTRATION
Phthalic acid, bis-2-ethylhexylester CAS: [117-81-7]	1000 µg/ml
Phthalic acid, benzylbutyl ester CAS: [85-68-7]	1000 µg/ml
Phthalic acid, bis-butyl ester (Di-n-butylphthalate) CAS: [84-74-2]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Phthalic acid, bis-ethyl ester (Diethyl phthalate) CAS: [84-66-2]	1000 µg/ml
Phthalic acid, bis-methyl ester (Dimethyl phthalate) CAS: [131-11-3]	1000 µg/ml
Phthalic acid, bis-1-octyl ester (Di-n-octylphthalate) CAS: [117-84-0]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** PS52980001

DESCRIPTION	CONCENTRATION
Phthalic acid, bis-2-ethylhexylester CAS: [117-81-7]	100 µg/ml
Phthalic acid, benzylbutyl ester (Butyl benzyl phthalate) CAS: [85-68-7]	100 µg/ml
Phthalic acid, bis-butyl ester (Di-n-butylphthalate) CAS: [84-74-2]	100 µg/ml

DESCRIPTION	CONCENTRATION
Phthalic acid, bis-ethyl ester (Diethyl phthalate) CAS: [84-66-2]	100 µg/ml
Phthalic acid, bis-methyl ester (Dimethyl phthalate) CAS: [131-11-3]	100 µg/ml
Phthalic acid, bis-1-octyl ester (di-n-octyl phthalate) CAS: [117-84-0]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** PS52980001

### Phthalates Surrogate Standard Solution - 3 components

DESCRIPTION	CONCENTRATION
Dibenzyl phthalate CAS: [523-31-9]	500 µg/ml
Diphenyl isophthalate	500 µg/ml

DESCRIPTION	CONCENTRATION
Diphenyl phthalate CAS: [84-62-8]	500 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS50950001

## EPA 8080A Organochlorine pesticides and polychlorinated biphenyls by GC

Organochlorine pesticides and polychlorinated biphenyls by GC. Method 8080 provides gas chromatographic conditions (GC-ECD or GC-HECD) for the detection of ppb concentrations of certain organochlorine pesticides and PCBs.

### OCs Decomposition Solution - 2 components

DESCRIPTION	CONCENTRATION
4,4'-DDT (p,p'-DDT) CAS: [50-29-3]	2 µg/ml

DESCRIPTION	CONCENTRATION
Endrin CAS: [72-20-8]	1 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS53050001

### OCs QC Standard Solution - 17 components

DESCRIPTION	CONCENTRATION
Aldrin CAS: [309-00-2]	0.02 µg/ml
Alpha-HCH CAS: [319-84-6]	0.02 µg/ml
Beta-HCH CAS: [319-85-7]	0.02 µg/ml
Gamma-HCH (Lindane) CAS: [58-89-9]	0.02 µg/ml
Delta-HCH CAS: [319-86-8]	0.02 µg/ml
4,4'-DDD (TDE) CAS: [72-54-8]	0.1 µg/ml
4,4'-DDE CAS: [72-55-9]	0.02 µg/ml
4,4'-DDT CAS: [50-29-3]	0.1 µg/ml
Dieldrin CAS: [60-57-1]	0.02 µg/ml

DESCRIPTION	CONCENTRATION
Endosulfan-alpha (Endosulfan I) CAS: [959-98-8]	0.02 µg/ml
Endosulfan-beta (Endosulfan II) CAS: [33213-65-9]	0.1 µg/ml
Endosulfan-total (sulfate) CAS: [1031-07-8]	0.1 µg/ml
Endrin CAS: [72-20-8]	0.1 µg/ml
Endrin aldehyde CAS: [7421-93-4]	0.02 µg/ml
Heptachlor CAS: [76-44-8]	0.02 µg/ml
Heptachlor-exo-epoxide (Heptachlor epoxide) CAS: [1024-57-3]	0.02 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	0.02 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS53020001

### OCs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Chlordane (technical) CAS: [57-74-9]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS50140001**

DESCRIPTION	CONCENTRATION
Toxaphene (Camphechlor) CAS: [8001-35-2]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS50220001**

### OCs Standard Solution - 17 components

DESCRIPTION	CONCENTRATION
Aldrin CAS: [309-00-2]	2000 µg/ml
Alpha-HCH CAS: [319-84-6]	2000 µg/ml
Beta-HCH CAS: [319-85-7]	2000 µg/ml
Gamma-HCH (Lindane) CAS: [58-89-9]	2000 µg/ml
Delta-HCH CAS: [319-86-8]	2000 µg/ml
4,4'-DDD (TDE) CAS: [72-54-8]	2000 µg/ml
4,4'-DDE CAS: [72-55-9]	2000 µg/ml
4,4'-DDT CAS: [50-29-3]	2000 µg/ml
Dieldrin CAS: [60-57-1]	2000 µg/ml

DESCRIPTION	CONCENTRATION
Endosulfan-alpha (Endosulfan I) CAS: [959-98-8]	2000 µg/ml
Endosulfan-beta (Endosulfan II) CAS: [33213-65-9]	2000 µg/ml
Endosulfan-total (sulfate) CAS: [1031-07-8]	2000 µg/ml
Endrin CAS: [72-20-8]	2000 µg/ml
Endrin aldehyde CAS: [7421-93-4]	2000 µg/ml
Heptachlor CAS: [76-44-8]	2000 µg/ml
Heptachlor-exo-epoxide (Heptachlor epoxide) CAS: [1024-57-3]	2000 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	2000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS50840001**

### OCs Standard Solution - 3 components

DESCRIPTION	CONCENTRATION
250 µg/ml each of 2,4'-DDD CAS: [53-19-0]	250 µg/ml
2,4'-DDE CAS: [3424-82-6]	250 µg/ml

DESCRIPTION	CONCENTRATION
2,4'-DDT CAS: [789-02-6]	250 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS53040001**

### PCBs Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Aroclor 1016 CAS: [12674-11-2]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS50010001**

DESCRIPTION	CONCENTRATION
Aroclor 1221 (pcb 1221) CAS: [11104-28-2]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS50030001**

DESCRIPTION	CONCENTRATION
Aroclor 1232 (pcb 1232) CAS: [11141-16-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS50050001**

DESCRIPTION	CONCENTRATION
Aroclor 1242 CAS: [53469-21-9]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS53030001**

DESCRIPTION	CONCENTRATION
Aroclor 1248 CAS: [12672-29-6]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS50070001**

DESCRIPTION	CONCENTRATION
Aroclor 1254 CAS: [11097-69-1]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS50090001**

DESCRIPTION	CONCENTRATION
Aroclor 1260 CAS: [11096-82-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS50110001**

### Surrogate Standard Solution - 2 components

DESCRIPTION	CONCENTRATION
PCB 209 (Decachlorobiphenyl) CAS: [2051-24-3]	200 µg/ml

DESCRIPTION	CONCENTRATION
2,4,5,6-Tetrachloro-m-xylene CAS: [877-09-8]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS53060001**

## EPA 8081A Organochlorine pesticides by GC

Organochlorine pesticides by GC. Method 8081 is used to determine the concentrations of various organochlorine pesticides in extracts from solid and liquid matrices, using fused-silica, open-tubular, capillary columns with electron capture detectors (ECD).

### ACs Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
1-Bromo-2-nitrobenzene (Pentachloronitrobenzene) CAS: [577-19-5]	5000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS53090001

### OCs Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Quintozene (Pentachloronitrobenzene) CAS: [82-68-8]	5000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS53080001

### OCs Standard Solution - 20 components

DESCRIPTION	CONCENTRATION
Aldrin CAS: [309-00-2]	1000 µg/ml
Alpha-HCH (alpha-BHC) CAS: [319-84-6]	1000 µg/ml
Beta-HCH (beta-BHC) CAS: [319-85-7]	1000 µg/ml
Gamma-HCH (Lindane) (gamma-BHC) CAS: [58-89-9]	1000 µg/ml
Delta-HCH (delta-BHC) CAS: [319-86-8]	1000 µg/ml
cis-Chlordane (alpha-Chlordane) CAS: [5103-71-9]	1000 µg/ml
trans-Chlordane (Gamma-Chlordane) CAS: [5103-74-2]	1000 µg/ml
4,4'-DDD (TDE) CAS: [72-54-8]	1000 µg/ml
4,4'-DDE CAS: [72-55-9]	1000 µg/ml

DESCRIPTION	CONCENTRATION
4,4'-DDT CAS: [50-29-3]	1000 µg/ml
Dieldrin CAS: [60-57-1]	1000 µg/ml
Endosulfan-alpha CAS: [959-98-8]	1000 µg/ml
Endosulfan-beta CAS: [33213-65-9]	1000 µg/ml
Endosulfan-total (sulfate) CAS: [1031-07-8]	1000 µg/ml
Endrin CAS: [72-20-8]	1000 µg/ml
Endrin aldehyde CAS: [7421-93-4]	1000 µg/ml
Endrin ketone CAS: [53494-70-5]	1000 µg/ml
Heptachlor CAS: [76-44-8]	1000 µg/ml
Heptachlor-exo-epoxide (cis-Heptachlorepoxyde (cis-, exo-,) CAS: [1024-57-3]	1000 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane / Toluene (1/1)
- **Art. No.:** PS51240001

### OCs Standard Solution - 6 components

DESCRIPTION	CONCENTRATION
Chlorobenzilate CAS: [510-15-6]	1000 µg/ml
Diallate CAS: [2303-16-4]	1000 µg/ml
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Hexachlorobenzene CAS: [118-74-1]	1000 µg/ml
Hexachlorocyclopentadiene CAS: [77-47-4]	1000 µg/ml
Isodrin CAS: [465-73-6]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane / Toluene (1/1)
- **Art. No.:** PS53070001

## EPA 8082 Polychlorinated biphenyls (PCBs) by GC

Polychlorinated biphenyls (PCBs) by GC. Method 8082 is used to determine the concentrations of polychlorinated biphenyls (PCBs) as Aroclors or as individual PCB congeners in extracts from solid and a queous matrices. Open-tubular, capillary columns are employed with electron capture detectors (ECD) or electrolytic conductivity detectors (ELCD).

### ACs Surrogate Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
2,4,5,6-Tetrachloro-m-xylene CAS: [877-09-8]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS53130001

### Internal & Surrogate Solution - 2 components

DESCRIPTION	CONCENTRATION
PCB 209 (Decachlorobiphenyl) CAS: [2051-24-3]	1000 µg/ml

DESCRIPTION	CONCENTRATION
2,4,5,6-Tetrachloro-m-xylene CAS: [877-09-8]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS53140001

### PCBs Standard Solution - 19 components

DESCRIPTION	CONCENTRATION
PCB 1 (2-Chlorobiphenyl) CAS: [2051-60-7]	100 µg/ml
PCB 5 (2,3-Dichlorobiphenyl) CAS: [16605-91-7]	100 µg/ml
PCB 18 CAS: [37680-65-2]	100 µg/ml
PCB 31 CAS: [16606-02-3]	100 µg/ml
PCB 44 CAS: [41464-39-5]	100 µg/ml
PCB 52 (2,2',5,5'-Tetrachlorobiphenyl) CAS: [35693-99-3]	100 µg/ml
PCB 66 CAS: [32598-10-0]	100 µg/ml
PCB 87 CAS: [38380-02-8]	100 µg/ml
PCB 101 CAS: [37680-73-2]	100 µg/ml

DESCRIPTION	CONCENTRATION
PCB 110 CAS: [38380-03-9]	100 µg/ml
PCB 138 CAS: [35065-28-2]	100 µg/ml
PCB 141 CAS: [52712-04-6]	100 µg/ml
PCB 151 CAS: [52663-63-5]	100 µg/ml
PCB 153 CAS: [35065-27-1]	100 µg/ml
PCB 170 CAS: [35065-30-6]	100 µg/ml
PCB 180 CAS: [35065-29-3]	100 µg/ml
PCB 183 CAS: [52663-69-1]	100 µg/ml
PCB 187 CAS: [52663-68-0]	100 µg/ml
PCB 206 CAS: [40186-72-9]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS53100001**

### PCBs Standard Solution - 2 components

DESCRIPTION	CONCENTRATION
Aroclor 1016 CAS: [12674-11-2]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Aroclor 1260 (PCB 1260) CAS: [11096-82-5]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS53100001**

### PCBs Surrogate Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
PCB 209 (Decachlorobiphenyl) CAS: [2051-24-3]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS53120001**

## EPA 8091 Nitroaromatics and cyclic ketones by GC

Nitroaromatics and cyclic ketones by GC. Method 8091 is a gas chromatographic (GC) method used to determine the concentration of nitroaromatics and cyclic ketones. It describes wide-bore, open-tubular, capillary column gas chromatography procedures using either electron capture (ECD) or nitrogen-phosphorous (NPD) detectors.

### ACs Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Hexachlorobenzene CAS: [118-74-1]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS53170001**

### ACs Surrogate Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
1-Chloro-3-nitrobenzene CAS: [121-73-3]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS53180001**

## EPA 8100 Polynuclear aromatic hydrocarbons

Polynuclear aromatic hydrocarbons. Method 8100 provides gas chromatographic conditions (GC/FID) for the detection of ppb levels of certain polynuclear aromatic hydrocarbons.

### PAH Standard Solution - 16 components

DESCRIPTION	CONCENTRATION
Acenaphthene CAS: [83-32-9]	1000 µg/ml
Acenaphthylene CAS: [208-96-8]	1000 µg/ml
Anthracene CAS: [120-12-7]	1000 µg/ml
Benzo(a)anthracene CAS: [56-55-3]	1000 µg/ml
Benzo(a)pyrene CAS: [50-32-8]	1000 µg/ml
Benzo(b)fluoranthene CAS: [205-99-2]	1000 µg/ml
Benzo(g,h,i)perylene CAS: [191-24-2]	1000 µg/ml
Benzo(k)fluoranthene CAS: [207-08-9]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Chrysene CAS: [218-01-9]	1000 µg/ml
Dibenzo(a,h)anthracene CAS: [53-70-3]	1000 µg/ml
Fluoranthene CAS: [206-44-0]	1000 µg/ml
Fluorene CAS: [86-73-7]	1000 µg/ml
Indeno(1,2,3-c,d)pyrene CAS: [193-39-5]	1000 µg/ml
Naphthalene CAS: [91-20-3]	1000 µg/ml
Phenanthrene CAS: [85-01-8]	1000 µg/ml
Pyrene CAS: [129-00-0]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS53190001**

### Surrogate Standard Solution - 2 components

DESCRIPTION	CONCENTRATION
2-Fluorobiphenyl CAS: [321-60-8]	2000 µg/ml

DESCRIPTION	CONCENTRATION
1-Fluoronaphthalene CAS: [321-38-0]	2000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS53200001**



## EPA 8111 Haloethers by GC

Haloethers by GC. Method 8111 is a gas chromatographic (GC) method used to determine the concentration of haloethers. It describes wide-bore open-tubular, capillary column gas chromatography procedures using a dual-column/dual-detector approach, however, a single column/single detector approach is acceptable.

### Ethers Standard Solution - 4 components

DESCRIPTION	CONCENTRATION
Bis-(2-chloroethoxy)-methane CAS: [111-91-1]	1000 µg/ml
Bis-(2-chloroethyl)-ether CAS: [111-44-4]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Bis-(2-chloro-1-methylethyl)ether (bis(2-chloroisopropyl) ether) CAS: [108-60-1]	1000 µg/ml
4-Chlorophenyl phenyl ether CAS: [7005-72-3]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** PS53210001

## EPA 8121 Chlorinated hydrocarbons by GC

Chlorinated hydrocarbons by GC: capillary column technique. Method 8121 describes the determination of chlorinated hydrocarbons in extracts prepared from environmental samples and RCRA wastes. It describes wide-bore open-tubular, capillary column gas chromatography procedures using both single column/single detector and dual-column/dual-detector approaches.

### ACs / VOC Standard Solution - 22 components

DESCRIPTION	CONCENTRATION
2-Chloronaphthalene CAS: [91-58-7]	2000 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	1000 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	1000 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	1000 µg/ml
alpha-alpha-Dichlorotoluene (Benzal chloride) CAS: [98-87-3]	100 µg/ml
alpha,alpha,alpha-Trichlorotoluene CAS: [98-07-7]	100 µg/ml
alpha-Chlorotoluene CAS: [100-44-7]	100 µg/ml
Alpha-HCH (alpha-BHC) CAS: [319-84-6]	100 µg/ml
Beta-HCH (beta-BHC) CAS: [319-85-7]	100 µg/ml
Gamma-HCH (Lindane) (gamma-BHC) CAS: [58-89-9]	100 µg/ml
Delta-HCH (delta-BHC) CAS: [319-86-8]	100 µg/ml

DESCRIPTION	CONCENTRATION
1,2,3,4-Tetrachlorobenzene CAS: [634-66-2]	100 µg/ml
1,2,4,5-Tetrachlorobenzene CAS: [95-94-3]	100 µg/ml
1,2,3,5-Tetrachlorobenzene CAS: [634-90-2]	100 µg/ml
1,2,3-Trichlorobenzene CAS: [87-61-6]	100 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	100 µg/ml
1,3,5-Trichlorobenzene CAS: [108-70-3]	100 µg/ml
Hexachlorobenzene CAS: [118-74-1]	10 µg/ml
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	10 µg/ml
Hexachlorocyclopentadiene CAS: [77-47-4]	10 µg/ml
Hexachloroethane CAS: [67-72-1]	10 µg/ml
Pentachlorobenzene CAS: [608-93-5]	10 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** PS53230001

### ACs Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
1,3,5-Tribromobenzene CAS: [626-39-1]	50 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS51000001

DESCRIPTION	CONCENTRATION
1,3,5-Tribromobenzene CAS: [626-39-1]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** PS53220001

### ACs Surrogate Standard Solution - 3 components

DESCRIPTION	CONCENTRATION
1,4-Dichloronaphthalene CAS: [1825-31-6]	10 µg/ml
2,3,4,5,6-Pentachlorotoluene CAS: [877-11-2]	1 µg/ml

DESCRIPTION	CONCENTRATION
alpha,2,6-Trichlorotoluene CAS: [2014-83-7]	1 µg/ml

- Vol. 1
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** PS50960001

### OCs / ACs Standard Solution - 22 components

DESCRIPTION	CONCENTRATION
alpha-alpha-Dichlorotoluene (Benzal chloride) CAS: [98-87-3]	1000 µg/ml
alpha,alpha,alpha-Trichlorotoluene CAS: [98-07-7]	1000 µg/ml
alpha-Chlorotoluene CAS: [100-44-7]	1000 µg/ml
Alpha-HCH (alpha-BHC) CAS: [319-84-6]	1000 µg/ml
Beta-HCH (beta-BHC) CAS: [319-85-7]	1000 µg/ml
Gamma-HCH (Lindane) (gamma-BHC) CAS: [58-89-9]	1000 µg/ml
Delta-HCH (delta-BHC) CAS: [319-86-8]	1000 µg/ml
2-Chloronaphthalene CAS: [91-58-7]	1000 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	1000 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	1000 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Hexachlorobenzene CAS: [118-74-1]	1000 µg/ml
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	1000 µg/ml
Hexachlorocyclopentadiene CAS: [77-47-4]	1000 µg/ml
Hexachloroethane CAS: [67-72-1]	1000 µg/ml
Pentachlorobenzene CAS: [608-93-5]	1000 µg/ml
1,2,3,4-Tetrachlorobenzene CAS: [634-66-2]	1000 µg/ml
1,2,3,5-Tetrachlorobenzene CAS: [634-90-2]	1000 µg/ml
1,2,4,5-Tetrachlorobenzene CAS: [95-94-3]	1000 µg/ml
1,2,3-Trichlorobenzene CAS: [87-61-6]	1000 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	1000 µg/ml
1,3,5-Trichlorobenzene CAS: [108-70-3]	1000 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** PS50920001

## EPA 8131

Aniline and selected derivatives by GC. Method 8131 is used to determine (by gas chromatography with a specific detector) the concentration of aniline and certain derivatives of aniline in extracts prepared from environmental samples and RCRA wastes.

### NCC Standard Solution - 19 components

DESCRIPTION	CONCENTRATION
Aniline CAS: [62-53-3]	1000 µg/ml
4-Bromoaniline CAS: [106-40-1]	1000 µg/ml
2-Bromo-6-chloro-4-nitroaniline CAS: [99-29-6]	1000 µg/ml
2-Bromo-4,6-dinitroaniline CAS: [1817-73-8]	1000 µg/ml
2-Chloroaniline CAS: [95-51-2]	1000 µg/ml
3-Chloroaniline CAS: [108-42-9]	1000 µg/ml
4-Chloroaniline CAS: [106-47-8]	1000 µg/ml
2-Chloro-4,6-dinitroaniline CAS: [3531-19-9]	1000 µg/ml
2-Chloro-4-nitroaniline CAS: [121-87-9]	1000 µg/ml
4-Chloro-2-nitroaniline CAS: [89-63-4]	1000 µg/ml

DESCRIPTION	CONCENTRATION
2,6-Dibromo-4-nitroaniline CAS: [827-94-1]	1000 µg/ml
3,4-Dichloroaniline CAS: [95-76-1]	1000 µg/ml
Dicloran (2,6-Dichloro-4-nitroaniline) CAS: [99-30-9]	1000 µg/ml
2,4-Dinitroaniline CAS: [97-02-9]	1000 µg/ml
2-Nitroaniline CAS: [88-74-4]	1000 µg/ml
3-Nitroaniline CAS: [99-09-2]	1000 µg/ml
4-Nitroaniline CAS: [100-01-6]	1000 µg/ml
2,4,6-Trichloroaniline CAS: [634-93-5]	1000 µg/ml
2,4,5-Trichloroaniline CAS: [636-30-6]	1000 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Toluene
- Art. No.: **PS53240001**

## EPA 8141A Organophosphorus compounds by GC

Organophosphorus compounds by GC: capillary column technique. Method 8141 is a capillary gas chromatographic (GC-FPD or NPD) method used to determine the concentration of organophosphorus (OP) compounds.

### Industrial Chemicals & Triazine Herbicides Mixture - 2 components

DESCRIPTION	CONCENTRATION
Atrazine CAS: [1912-24-9]	200 µg/ml

DESCRIPTION	CONCENTRATION
Simazine CAS: [122-34-9]	200 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Acetone
- Art. No.: **PS53280001**

### OPP Standard Solution - 20 components

DESCRIPTION	CONCENTRATION
Azinphos-methyl CAS: [86-50-0]	200 µg/ml
Sulprofos (Bolstar) CAS: [35400-43-2]	200 µg/ml
Chlorpyrifos CAS: [2921-88-2]	200 µg/ml
Coumaphos CAS: [56-72-4]	200 µg/ml
Demeton (O+S) CAS: [8065-48-3]	200 µg/ml
Diazinon CAS: [333-41-5]	200 µg/ml
Dichlorvos CAS: [62-73-7]	200 µg/ml
Disulfoton CAS: [298-04-4]	200 µg/ml
Ethoprophos CAS: [13194-48-4]	200 µg/ml
Fensulfthion CAS: [115-90-2]	200 µg/ml

DESCRIPTION	CONCENTRATION
Fenthion CAS: [55-38-9]	200 µg/ml
Merphos CAS: [150-50-5]	200 µg/ml
Parathion-methyl CAS: [298-00-0]	200 µg/ml
Mevinphos (Phosdrin) CAS: [7786-34-7]	200 µg/ml
Naled CAS: [300-76-5]	200 µg/ml
Phorate CAS: [298-02-2]	200 µg/ml
Fenchlorphos (Ronnel) CAS: [299-84-3]	200 µg/ml
Tetrachlorvinphos (Stirofos) CAS: [22248-79-9]	200 µg/ml
Prothiophos (Tokuthion) CAS: [34643-46-4]	200 µg/ml
Trichloronat CAS: [327-98-0]	200 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: n-Hexane / Acetone (9/1)
- Art. No.: **PS53250001**

### OPP Standard Solution - 7 components

DESCRIPTION	CONCENTRATION
Dimethoate CAS: [60-51-5]	200 µg/ml
EPN CAS: [2104-64-5]	200 µg/ml
Malathion CAS: [121-75-5]	200 µg/ml
Monocrotophos CAS: [6923-22-4]	200 µg/ml

DESCRIPTION	CONCENTRATION
Parathion CAS: [56-38-2]	200 µg/ml
Sulfotep CAS: [3689-24-5]	200 µg/ml
Tetraethylpyrophosphate CAS: [107-49-3]	200 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: n-Hexane / Acetone (1/1)
- Art. No.: **PS50360001**

### OPP Standard Solution - 9 components

DESCRIPTION	CONCENTRATION
Aspon CAS: [3244-90-4]	200 µg/ml
Chlorpyrifos methyl CAS: [5598-13-0]	200 µg/ml
Crotoxyphos CAS: [7700-17-6]	200 µg/ml
Dichlofenthion CAS: [97-17-6]	200 µg/ml
Dicrotophos CAS: [141-66-2]	200 µg/ml

DESCRIPTION	CONCENTRATION
Fenitrothion CAS: [122-14-5]	200 µg/ml
Fonofos CAS: [944-22-9]	200 µg/ml
Thionazin CAS: [297-97-2]	200 µg/ml
Trichlorfon CAS: [52-68-6]	200 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: n-Hexane / Acetone (1/1)
- Art. No.: **PS50370001**

## EPA 8151A Chlorinated herbicides by GC using methylation or pentafluorobenzoylation derivatization

Chlorinated herbicides by GC using methylation or pentafluorobenzoylation derivatization. Method 8151 is a capillary gas chromatographic (GC) method for determining certain chlorinated acid herbicides and related compounds in aqueous, soil and waste matrices.

### Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
4,4'-Dibromooctafluorobiphenyl CAS: [10386-84-2]	250 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS51290001**

### Methylated Chlorinated Herbicides Mixture - 8 components

DESCRIPTION	CONCENTRATION
2,4-D methyl ester CAS: [1928-38-7]	20 µg/ml
Dalapon methyl ester CAS: [17640-02-7]	20 µg/ml
2,4-DB methyl ester CAS: [18625-12-2]	20 µg/ml
Dicamba-methyl ester CAS: [6597-78-0]	20 µg/ml

DESCRIPTION	CONCENTRATION
Dichlorprop methyl ester CAS: [57153-17-0]	20 µg/ml
Dinoseb methyl ether CAS: [6099-79-2]	20 µg/ml
Fenoprop-methyl ester (Silvex methyl ester) CAS: [4841-20-7]	20 µg/ml
2,4,5-T methyl ester CAS: [1928-37-6]	20 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** n-Hexane
- **Art. No.:** **PS50860001**

### OCs / Phenoxyacetic Herbicides Standard Solution - 12 components

DESCRIPTION	CONCENTRATION
2,4-D CAS: [94-75-7]	100 µg/ml
2,4-DB CAS: [94-82-6]	100 µg/ml
Fenoprop (Silvex) CAS: [93-72-1]	100 µg/ml
2,4,5-T CAS: [93-76-5]	100 µg/ml
Dalapon CAS: [75-99-0]	100 µg/ml
Dicamba CAS: [1918-00-9]	100 µg/ml

DESCRIPTION	CONCENTRATION
Dichlorprop CAS: [120-36-5]	100 µg/ml
Dinoseb CAS: [88-85-7]	100 µg/ml
MCPA CAS: [94-74-6]	100 µg/ml
Mecoprop (MCP) CAS: [7085-19-0]	100 µg/ml
4-Nitrophenol CAS: [100-02-7]	100 µg/ml
Pentachlorophenol CAS: [87-86-5]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS53300001**

### OCs Laboratory Performance Check Solution - 5 components

DESCRIPTION	CONCENTRATION
3,5-Dichlorobenzoic acid CAS: [51-36-5]	600 µg/ml
Dinoseb CAS: [88-85-7]	4 µg/ml
4-Nitrophenol CAS: [100-02-7]	1600 µg/ml

DESCRIPTION	CONCENTRATION
2,4-Dichlorophenylacetic acid CAS: [19719-28-9]	500 µg/ml
4,4'-Dibromooctafluorobiphenyl (DBOB) CAS: [10386-84-2]	

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS53330001**

### Phenoxyacetic Herbicides Standard Solution - 3 components

DESCRIPTION	CONCENTRATION
2,4-D methyl ester CAS: [1928-38-7]	100 µg/ml
Fenoprop-methyl ester (Silvex methyl ester) CAS: [4841-20-7]	100 µg/ml

DESCRIPTION	CONCENTRATION
2,4,5-T methyl ester CAS: [1928-37-6]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS53320001**

### Phenoxyacetic Herbicides Surrogate Solution - 1 component

DESCRIPTION	CONCENTRATION
2,4-Dichlorophenylacetic acid CAS: [19719-28-9]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS51280001**

DESCRIPTION	CONCENTRATION
2,4-Dichlorophenylacetic acid CAS: [19719-28-9]	2000 µg/ml

- **Vol.** 5ml
- **Packaging:** Ampoule
- **Solvent:** Acetone
- **Art. No.:** **PS50310005**

## EPA 8240B Volatile organic compounds by GC/MS

Method 8240 is used to determine volatile organic compounds in a variety of solid waste matrices. This method is applicable to nearly all types of samples, regardless of water content, including ground water, aqueous sludges, caustic liquors, acid liquors, waste solvents, oily wastes, mousses, tars, fibrous wastes, polymeric emulsions, filter cakes, spent carbons, spent catalysts, soils and sediments.

### Internal Standard Mixture - 3 components

DESCRIPTION	CONCENTRATION
Bromochloromethane CAS: [74-97-5]	1000 µg/ml
Chlorobenzene D5 CAS: [3114-55-4]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS50380001

### VOC Standard Solution - 15 components

DESCRIPTION	CONCENTRATION
Acrolein (2-Propenal) CAS: [107-02-8]	200 µg/ml
Acrylonitrile CAS: [107-13-1]	200 µg/ml
Bromomethane CAS: [74-83-9]	200 µg/ml
Bromoacetone CAS: [598-31-2]	200 µg/ml
Chloralhydrate CAS: [302-17-0]	200 µg/ml
Chloroethane CAS: [75-00-3]	200 µg/ml
2-Chloroethanol CAS: [107-07-3]	200 µg/ml
2-Chloroethyl-vinylether CAS: [110-75-8]	200 µg/ml

DESCRIPTION	CONCENTRATION
Chloromethane CAS: [74-87-3]	200 µg/ml
Chloroprene CAS: [126-99-8]	200 µg/ml
Dichlorodifluoromethane CAS: [75-71-8]	200 µg/ml
Fluorotrichloromethane (Trichlorofluoromethane) CAS: [75-69-4]	200 µg/ml
1,2,3-Trichloropropane CAS: [96-18-4]	200 µg/ml
Vinylacetate CAS: [108-05-4]	200 µg/ml
Vinylchloride CAS: [75-01-4]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol / Xylenes traces (1)
- **Art. No.:** PS53360001

### VOC Standard Solution - 28 components

DESCRIPTION	CONCENTRATION
Acetonitrile CAS: [75-05-8]	200 µg/ml
Allyl alcohol CAS: [107-18-6]	200 µg/ml
3-Chloropropene (Allyl chloride) CAS: [107-05-1]	200 µg/ml
alpha-Chlorotoluene (Benzyl chloride) CAS: [100-44-7]	200 µg/ml
2-Chloroethanol CAS: [107-07-3]	200 µg/ml
3-Chloropropionitrile CAS: [542-76-7]	200 µg/ml
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	200 µg/ml
1,2-Dibromoethane CAS: [106-93-4]	200 µg/ml
Dibromomethane CAS: [74-95-3]	200 µg/ml
1,3-Dichloropropane-2-ol CAS: [96-23-1]	200 µg/ml
1,2,3,4-Diepoxybutane CAS: [1464-53-5]	200 µg/ml
Dioxan (1,4-Dioxane) CAS: [123-91-1]	200 µg/ml
Epichlorhydrin CAS: [106-89-8]	200 µg/ml
Methacrylic acid-ethyl ester (Ethyl methacrylate) CAS: [97-63-2]	200 µg/ml

DESCRIPTION	CONCENTRATION
2-Hydroxypropionitrile CAS: [78-97-7]	200 µg/ml
2-Methyl-1-propanol (Isobutyl alcohol) CAS: [78-83-1]	200 µg/ml
Malononitrile CAS: [109-77-3]	200 µg/ml
Methacrylonitrile CAS: [126-98-7]	200 µg/ml
Methacrylic acid-methyl ester (Methyl methacrylate) CAS: [80-62-6]	200 µg/ml
Pentachloroethane CAS: [76-01-7]	200 µg/ml
2-Picoline CAS: [109-06-8]	200 µg/ml
Propargyl alcohol CAS: [107-19-7]	200 µg/ml
b-Propiolactone CAS: [57-57-8]	200 µg/ml
Propionitrile CAS: [107-12-0]	200 µg/ml
Propylamine (n- Propyl amine) CAS: [107-10-8]	200 µg/ml
Pyridine CAS: [110-86-1]	200 µg/ml
1,1,1,2-Tetrachloroethane CAS: [630-20-6]	200 µg/ml
1,2,3-Trichloropropane CAS: [96-18-4]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS53350001

### VOC Standard Solution - 34 components

DESCRIPTION	CONCENTRATION
Acetone CAS: [67-64-1]	200 µg/ml
Benzene CAS: [71-43-2]	200 µg/ml
Bromodichloromethane CAS: [75-27-4]	200 µg/ml
Tribromomethane (Bromoform) CAS: [75-25-2]	200 µg/ml
2-Butanone CAS: [78-93-3]	200 µg/ml
Carbon disulfide CAS: [75-15-0]	200 µg/ml
Tetrachloromethane (Carbon tetrachloride) CAS: [56-23-5]	200 µg/ml
Chlorobenzene CAS: [108-90-7]	200 µg/ml
Dibromochloromethane CAS: [124-48-1]	200 µg/ml
Chloroform CAS: [67-66-3]	200 µg/ml
1,4-Dichloro-2-butene CAS: [764-41-0]	200 µg/ml
1,1-Dichloroethane CAS: [75-34-3]	200 µg/ml
1,2-Dichloroethane CAS: [107-06-2]	200 µg/ml
1,1-Dichloroethene CAS: [75-35-4]	200 µg/ml
trans-1,2-Dichloroethene CAS: [156-60-5]	200 µg/ml
1,2-Dichloropropane CAS: [78-87-5]	200 µg/ml
cis-1,3-Dichloropropene CAS: [10061-01-5]	200 µg/ml

DESCRIPTION	CONCENTRATION
trans-1,3-Dichloropropene CAS: [10061-02-6]	200 µg/ml
Ethanol CAS: [64-17-5]	200 µg/ml
Ethylbenzene CAS: [100-41-4]	200 µg/ml
2-Hexanone CAS: [591-78-6]	200 µg/ml
Iodomethane (Methyl iodide) CAS: [74-88-4]	200 µg/ml
Dichloromethane (Methylene chloride) CAS: [75-09-2]	200 µg/ml
4-Methyl-2-pentanone CAS: [108-10-1]	200 µg/ml
Styrene CAS: [100-42-5]	200 µg/ml
1,1,2,2-Tetrachloroethane CAS: [79-34-5]	200 µg/ml
Tetrachloroethene CAS: [127-18-4]	200 µg/ml
Toluene CAS: [108-88-3]	200 µg/ml
1,1,1-Trichloroethane CAS: [71-55-6]	200 µg/ml
1,1,2-Trichloroethane CAS: [79-00-5]	200 µg/ml
Trichloroethene CAS: [79-01-6]	200 µg/ml
o-Xylene CAS: [95-47-6]	200 µg/ml
m-Xylene CAS: [108-38-3]	200 µg/ml
p-Xylene CAS: [106-42-3]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS53340001

## EPA 8260B Volatile organic compounds by Gas chromatography/Mass spectrometry (GC/MS)

Volatile organic compounds by Gas chromatography/Mass spectrometry (GC/MS). Method 8260 is used to determine volatile organic compounds in a variety of solid waste matrices. This method is applicable to nearly all types of samples, regardless of water content, including various air sampling trapping media, ground and surface water, aqueous sludges, caustic liquors, acid liquors, waste solvents, oily wastes, mousses, tars, fibrous wastes, polymeric emulsions, filter cakes, spent carbons, spent catalysts, soils and sediments.

### Internal Standard Mixture - 4 components

DESCRIPTION	CONCENTRATION
Chlorobenzene D5 CAS: [3114-55-4]	1000 µg/ml
1,4-Dichlorobenzene D4 CAS: [3855-82-1]	1000 µg/ml

DESCRIPTION	CONCENTRATION
1,4-Difluorobenzene CAS: [540-36-3]	1000 µg/ml
Fluorobenzene CAS: [462-06-6]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS53410001**

### Internal Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Ethylene Oxide CAS: [75-21-8]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Iso-octane
- **Art. No.:** **PS53770001**

DESCRIPTION	CONCENTRATION
Ethylene Oxide CAS: [75-21-8]	5000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Water
- **Art. No.:** **PS53760001**

### VOC Standard Solution - 14 components

DESCRIPTION	CONCENTRATION
3-Chloropropene (Allyl chloride) CAS: [107-05-1]	200 µg/ml
alpha-Chlorotoluene (Benzyl chloride) CAS: [100-44-7]	200 µg/ml
cis-1,4-Dichloro-2-butene CAS: [1476-11-5]	200 µg/ml
trans-1,4-Dichloro-2-butene CAS: [1110-57-6]	200 µg/ml
Hexachloroethane CAS: [67-72-1]	200 µg/ml
Iodomethane CAS: [74-88-4]	200 µg/ml
Nitrobenzene CAS: [98-95-3]	200 µg/ml

DESCRIPTION	CONCENTRATION
2-Nitropropane CAS: [79-46-9]	200 µg/ml
N-Nitrosodibutylamine CAS: [924-16-3]	200 µg/ml
Pentachloroethane CAS: [76-01-7]	200 µg/ml
2-Picoline CAS: [109-06-8]	200 µg/ml
Propylamine (n- Propyl amine) CAS: [107-10-8]	200 µg/ml
Pyridine CAS: [110-86-1]	200 µg/ml
o-Toluidine CAS: [95-53-4]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS53390001**

### VOC Standard Solution - 15 components

DESCRIPTION	CONCENTRATION
Acetone CAS: [67-64-1]	200 µg/ml
1-Butanol CAS: [71-36-3]	200 µg/ml
2-Butanone CAS: [78-93-3]	200 µg/ml
tert.-Butanol (tert-butyl alcohol) CAS: [75-65-0]	200 µg/ml
Diethylether CAS: [60-29-7]	200 µg/ml
Dioxan CAS: [123-91-1]	200 µg/ml
Ethanol CAS: [64-17-5]	200 µg/ml
Ethyl Acetate CAS: [141-78-6]	200 µg/ml

DESCRIPTION	CONCENTRATION
2-Hexanone CAS: [591-78-6]	200 µg/ml
2-Methyl-1-propanol (Isobutyl alcohol) CAS: [78-83-1]	200 µg/ml
Methanol CAS: [67-56-1]	200 µg/ml
4-Methyl-2-pentanone (MIBK) CAS: [108-10-1]	200 µg/ml
2-Pentanone CAS: [107-87-9]	200 µg/ml
1-Propanol CAS: [71-23-8]	200 µg/ml
2- Propanol CAS: [67-63-0]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS53370001**

### VOC Standard Solution - 17 components

DESCRIPTION	CONCENTRATION
Acetonitrile CAS: [75-05-8]	200 µg/ml
Allyl alcohol CAS: [107-18-6]	200 µg/ml
Carbon disulfide CAS: [75-15-0]	200 µg/ml
2-Chloroethanol CAS: [107-07-3]	200 µg/ml
3-Chloropropionitrile CAS: [542-76-7]	200 µg/ml
Crotonaldehyde CAS: [123-73-9]	200 µg/ml
1,3-Dichloropropane-2-ol (1,3-Dichloro-2-propanol) CAS: [96-23-1]	200 µg/ml
1,2,3,4-Diepoxybutane CAS: [1464-53-5]	200 µg/ml
Epichlorhydrin CAS: [106-89-8]	200 µg/ml

DESCRIPTION	CONCENTRATION
Methacrylic acid-ethyl ester (Ethyl methacrylate) CAS: [97-63-2]	200 µg/ml
2-Hydroxypropionitrile CAS: [78-97-7]	200 µg/ml
Malononitrile CAS: [109-77-3]	200 µg/ml
Methacrylonitrile CAS: [126-98-7]	200 µg/ml
Methacrylic acid-methyl ester (Methyl methacrylate) CAS: [80-62-6]	200 µg/ml
Propargyl alcohol CAS: [107-19-7]	200 µg/ml
b-Propiolactone CAS: [57-57-8]	200 µg/ml
Propionitrile (Ethylcyanid) CAS: [107-12-0]	200 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** **PS53380001**

### VOC Standard Solution - 8 components

DESCRIPTION	CONCENTRATION
Acrolein (2-Propenal) CAS: [107-02-8]	200 µg/ml
Acrylonitrile CAS: [107-13-1]	200 µg/ml
Bromoacetone CAS: [598-31-2]	200 µg/ml
Chloralhydrate CAS: [302-17-0]	200 µg/ml

DESCRIPTION	CONCENTRATION
2-Chloroethyl-vinylether CAS: [110-75-8]	200 µg/ml
Chloroprene CAS: [126-99-8]	200 µg/ml
Paraldehyde CAS: [123-63-7]	200 µg/ml
Vinylacetate CAS: [108-05-4]	200 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Methanol
- **Art. No.:** PS53400001

### EPA 8270C Semivolatile organic compounds by Gas chromatography/Mass spectrometry (GC/MS)

Semivolatile organic compounds by Gas chromatography/Mass spectrometry (GC/MS). Method 8270 is used to determine the concentration of semivolatile organic compounds in extracts prepared from many types of solid waste matrices, soils, air sampling media and water samples. Direct injection of a sample may be used in limited applications.

### NCC Standard Solution - 17 components

DESCRIPTION	CONCENTRATION
Anilazine CAS: [101-05-3]	100 µg/ml
o-Anisidine CAS: [90-04-0]	100 µg/ml
Barban CAS: [101-27-9]	100 µg/ml
Benzidine CAS: [92-87-5]	100 µg/ml
Bromoxynil CAS: [1689-84-5]	100 µg/ml
3,3'-Dichlorobenzidine CAS: [91-94-1]	100 µg/ml
3,3'-Dimethoxybenzidine CAS: [119-90-4]	100 µg/ml
3,3'-Dimethylbenzidine CAS: [119-93-7]	100 µg/ml
Fluchloralin CAS: [33245-39-5]	100 µg/ml

DESCRIPTION	CONCENTRATION
Isosafrole CAS: [120-58-1]	100 µg/ml
Mestranol CAS: [72-33-3]	100 µg/ml
Mexacarbate CAS: [315-18-4]	100 µg/ml
6-Propyl-2-thiouracil CAS: [51-52-5]	100 µg/ml
Safrole CAS: [94-59-7]	100 µg/ml
Strychnine CAS: [57-24-9]	100 µg/ml
Toluene-2.4-diisocyanate CAS: [584-84-9]	100 µg/ml
Trifluralin CAS: [1582-09-8]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** PS53500001

### NCC Standard Solution - 32 components

DESCRIPTION	CONCENTRATION
4-Aminoazobenzene CAS: [60-09-3]	100 µg/ml
4-Aminobiphenyl CAS: [92-67-1]	100 µg/ml
3-Amino-9-ethylcarbazole CAS: [132-32-1]	100 µg/ml
Aniline CAS: [62-53-3]	100 µg/ml
4-Chloroaniline CAS: [106-47-8]	100 µg/ml
5-Chloro-2-methylaniline CAS: [95-79-4]	100 µg/ml
3-(Chloromethyl) pyridine hydrochloride CAS: [6959-48-4]	100 µg/ml
4-Chloro-1,2-phenylenediamine CAS: [95-83-0]	100 µg/ml
4-Chloro-1,3-phenylenediamine CAS: [5131-60-2]	100 µg/ml
2-Methoxy-5-methylaniline CAS: [120-71-8]	100 µg/ml
2,4-Diaminotoluene CAS: [95-80-7]	100 µg/ml
p-Dimethylaminoazobenzene CAS: [60-11-7]	100 µg/ml
Diphenylamine CAS: [122-39-4]	100 µg/ml
1,2-Diphenylhydrazine CAS: [122-66-7]	100 µg/ml
4,4'-Methylene-bis(2-chloroanil) CAS: [101-14-4]	100 µg/ml
4,4'-Methylene bis(N,N-dimethylaniline) CAS: [101-61-1]	100 µg/ml

DESCRIPTION	CONCENTRATION
1-Aminonaphthalene CAS: [134-32-7]	100 µg/ml
2-Aminonaphthalene (2-Naphthylamine) CAS: [91-59-8]	100 µg/ml
Nicotine CAS: [54-11-5]	100 µg/ml
2-Nitroaniline CAS: [88-74-4]	100 µg/ml
3-Nitroaniline CAS: [99-09-2]	100 µg/ml
4-Nitroaniline CAS: [100-01-6]	100 µg/ml
5-Nitro-o-anisidine CAS: [99-59-2]	100 µg/ml
2-Amino-4-nitrotoluene CAS: [99-55-8]	100 µg/ml
4-Aminophenylether CAS: [101-80-4]	100 µg/ml
Phenacetin CAS: [62-44-2]	100 µg/ml
1,4-Phenylenediamine CAS: [106-50-3]	100 µg/ml
2-Picoline CAS: [109-06-8]	100 µg/ml
Propyzamide CAS: [23950-58-5]	100 µg/ml
Pyridine CAS: [110-86-1]	100 µg/ml
o-Toluidine CAS: [95-53-4]	100 µg/ml
2,4,5-Trimethylaniline CAS: [137-17-7]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** PS53440001

### NCC Standard Solution - 9 components

DESCRIPTION	CONCENTRATION
N-Nitrosodibutylamine CAS: [924-16-3]	100 µg/ml
N-Nitrosodiethylamine CAS: [55-18-5]	100 µg/ml
N-Nitroso-dimethylamine CAS: [62-75-9]	100 µg/ml
N-Nitrosomethylethylamine CAS: [10595-95-6]	100 µg/ml
N-Nitroso-diphenylamine CAS: [86-30-6]	100 µg/ml

DESCRIPTION	CONCENTRATION
N-Nitroso-di-n-propylamine CAS: [621-64-7]	100 µg/ml
N-Nitrosomorpholine CAS: [59-89-2]	100 µg/ml
N-Nitrosopiperidine CAS: [100-75-4]	100 µg/ml
N-Nitrosopyrrolidine CAS: [930-55-2]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** PS53450001



### OCs Standard Solution - 20 components

DESCRIPTION	CONCENTRATION
Aldrin CAS: [309-00-2]	100 µg/ml
Alpha-HCH (alpha-BHC) CAS: [319-84-6]	100 µg/ml
Beta-HCH (beta-BHC) CAS: [319-85-7]	100 µg/ml
Delta-HCH (delta-BHC) CAS: [319-86-8]	100 µg/ml
Gamma-HCH (Lindane) (gamma-BHC) CAS: [58-89-9]	100 µg/ml
4,4'-DDD (TDE) CAS: [72-54-8]	100 µg/ml
4,4'-DDE CAS: [72-55-9]	100 µg/ml
4,4'-DDT CAS: [50-29-3]	100 µg/ml
Dieldrin CAS: [60-57-1]	100 µg/ml
Endosulfan-alpha (Endosulfan I) CAS: [959-98-8]	100 µg/ml

DESCRIPTION	CONCENTRATION
Endosulfan-beta (Endosulfan II) CAS: [33213-65-9]	100 µg/ml
Endosulfan-total (sulfate) CAS: [1031-07-8]	100 µg/ml
Endrin CAS: [72-20-8]	100 µg/ml
Endrin aldehyde CAS: [7421-93-4]	100 µg/ml
Endrin ketone CAS: [53494-70-5]	100 µg/ml
Heptachlor CAS: [76-44-8]	100 µg/ml
Heptachlor-exo-epoxide (Heptachlor epoxide) CAS: [1024-57-3]	100 µg/ml
Isodrin CAS: [465-73-6]	100 µg/ml
Methoxychlor (DMTD) CAS: [72-43-5]	100 µg/ml
Mirex CAS: [2385-85-5]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** PS53460001

### OPP Standard Solution - 34 components

DESCRIPTION	CONCENTRATION
Azinphos-methyl CAS: [86-50-0]	100 µg/ml
Captafol CAS: [2425-06-1]	100 µg/ml
Captan CAS: [133-06-2]	100 µg/ml
Chlorfenvinphos CAS: [470-90-6]	100 µg/ml
Coumaphos CAS: [56-72-4]	100 µg/ml
Crotoxyphos CAS: [7700-17-6]	100 µg/ml
Demeton-O CAS: [298-03-3]	100 µg/ml
Demeton-S CAS: [126-75-0]	100 µg/ml
Dichlorvos CAS: [62-73-7]	100 µg/ml
Dicrotophos CAS: [141-66-2]	100 µg/ml
Dioxathion CAS: [78-34-2]	100 µg/ml
EPN CAS: [2104-64-5]	100 µg/ml
Ethion CAS: [563-12-2]	100 µg/ml
Fensulfthion CAS: [115-90-2]	100 µg/ml
Fenthion CAS: [55-38-9]	100 µg/ml
Hexamethylphosphoric triamide (HMPA) CAS: [680-31-9]	100 µg/ml
Leptophos CAS: [21609-90-5]	100 µg/ml

DESCRIPTION	CONCENTRATION
Malathion CAS: [121-75-5]	100 µg/ml
Mevinphos CAS: [7786-34-7]	100 µg/ml
Monocrotophos CAS: [6923-22-4]	100 µg/ml
Naled CAS: [300-76-5]	100 µg/ml
Phosalone CAS: [2310-17-0]	100 µg/ml
Phosmet CAS: [732-11-6]	100 µg/ml
Phosphamidon CAS: [13171-21-6]	100 µg/ml
Sulfoxide CAS: [120-62-7]	100 µg/ml
Sulfallate CAS: [95-06-7]	100 µg/ml
Terbufos CAS: [13071-79-9]	100 µg/ml
cis-Tetrachlorvinphos CAS: [961-11-5]	100 µg/ml
Sulfotep (Tetraethyl dithiopyrophosphate) CAS: [3689-24-5]	100 µg/ml
Tetraethylpyrophosphate CAS: [107-49-3]	100 µg/ml
Benzenethiol CAS: [108-98-5]	100 µg/ml
Trimethyl phosphate CAS: [512-56-1]	100 µg/ml
Tris(2,3-dibromopropyl)phosphate CAS: [126-72-7]	100 µg/ml
Tri-4-cresyl phosphate CAS: [78-32-0]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** PS53480001

### Standard Solution - 14 components

DESCRIPTION	CONCENTRATION
Aramite CAS: [140-57-8]	100 µg/ml
Chlorobenzilate CAS: [510-15-6]	100 µg/ml
Diallate CAS: [2303-16-4]	100 µg/ml
Dimethoate CAS: [60-51-5]	100 µg/ml
Dinocap CAS: [39300-45-3]	100 µg/ml
Dinoseb CAS: [88-85-7]	100 µg/ml
Disulfoton CAS: [298-04-4]	100 µg/ml

DESCRIPTION	CONCENTRATION
Famphur CAS: [52-85-7]	100 µg/ml
Chlordecone hydrate CAS: [143-50-0]	100 µg/ml
Parathion CAS: [56-38-2]	100 µg/ml
Parathion-methyl CAS: [298-00-0]	100 µg/ml
Phorate CAS: [298-02-2]	100 µg/ml
Thionazin CAS: [297-97-2]	100 µg/ml
O.O.O-Triethylphosphorothioate CAS: [126-68-1]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** PS53470001

See complete range of standards in this QR code



Complete range of standards classified according to ASTM Methods, ISO Methods, EN Standards, contaminant standards, single component solutions and Neat standards.

### VOC / PAH / Phthalates Standard Solution - 58 components

DESCRIPTION	CONCENTRATION
Acenaphthene CAS: [83-32-9]	100 µg/ml
Acenaphthylene CAS: [208-96-8]	100 µg/ml
Anthracene CAS: [120-12-7]	100 µg/ml
Benzo(a)anthracene CAS: [56-55-3]	100 µg/ml
Benzo(b)fluoranthene CAS: [205-99-2]	100 µg/ml
Benzo(k)fluoranthene CAS: [207-08-9]	100 µg/ml
Benzo(g,h,i)perylene CAS: [191-24-2]	100 µg/ml
Benzo(a)pyrene CAS: [50-32-8]	100 µg/ml
Bis-(2-chloroethoxy)-methane CAS: [111-91-1]	100 µg/ml
Bis-(2-chloroethyl)-ether CAS: [111-44-4]	100 µg/ml
Bis-(2-chloro-1-methylethyl)ether CAS: [108-60-1]	100 µg/ml
Phthalic acid,bis-2-ethylhexylester CAS: [117-81-7]	100 µg/ml
PBDE #3 (4-Bromophenyl-phenyl ether) CAS: [101-55-3]	100 µg/ml
Phthalic acid, benzylbutyl ester (Butyl benzyl phthalate) CAS: [85-68-7]	100 µg/ml
1-Chloronaphthalene CAS: [90-13-1]	100 µg/ml
2-Chloronaphthalene CAS: [91-58-7]	100 µg/ml
4-Chlorophenyl phenyl ether CAS: [7005-72-3]	100 µg/ml
Chrysene CAS: [218-01-9]	100 µg/ml
Dibenz(a,j)acridine CAS: [224-42-0]	100 µg/ml
Dibenzo(a,h)anthracene CAS: [53-70-3]	100 µg/ml
Dibenzofuran CAS: [132-64-9]	100 µg/ml
Dibenzo(a,e)pyrene CAS: [192-65-4]	100 µg/ml
1,2-Dibromo-3-chloropropane CAS: [96-12-8]	100 µg/ml
Phthalic acid, bis-butyl ester (Di-n-butylphthalate) CAS: [84-74-2]	100 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	100 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	100 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	100 µg/ml
Phthalic acid, bis-ethyl ester (Diethyl phthalate) CAS: [84-66-2]	100 µg/ml

DESCRIPTION	CONCENTRATION
7,12-Dimethylbenzo(a)anthracene CAS: [57-97-6]	100 µg/ml
Phthalic acid, bis-methyl ester (Dimethyl phthalate) CAS: [131-11-3]	100 µg/ml
1,2-Dinitrobenzene CAS: [528-29-0]	100 µg/ml
1,3-Dinitrobenzene CAS: [99-65-0]	100 µg/ml
1,4-Dinitrobenzene CAS: [100-25-4]	100 µg/ml
2,4-Dinitrotoluene CAS: [121-14-2]	100 µg/ml
2,6-Dinitrotoluene CAS: [606-20-2]	100 µg/ml
Phthalic acid, bis-1-octyl ester (Di-n-octylphthalate) CAS: [117-84-0]	100 µg/ml
Fluoranthene CAS: [206-44-0]	100 µg/ml
Fluorene CAS: [86-73-7]	100 µg/ml
Hexachlorobenzene CAS: [118-74-1]	100 µg/ml
Hexachloro-1,3-butadiene (Hexachlorobutadiene) CAS: [87-68-3]	100 µg/ml
Hexachlorocyclopentadiene CAS: [77-47-4]	100 µg/ml
Hexachloroethane CAS: [67-72-1]	100 µg/ml
Hexachloropropene CAS: [1888-71-7]	100 µg/ml
Indeno(1,2,3-c,d)pyrene CAS: [193-39-5]	100 µg/ml
Isophorone CAS: [78-59-1]	100 µg/ml
3-Methylcholanthrene CAS: [56-49-5]	100 µg/ml
2-Methylnaphthalene CAS: [91-57-6]	100 µg/ml
Naphthalene CAS: [91-20-3]	100 µg/ml
5-Nitroacenaphthene CAS: [602-87-9]	100 µg/ml
Nitrobenzene CAS: [98-95-3]	100 µg/ml
4-Nitrobiphenyl CAS: [92-93-3]	100 µg/ml
Pentachlorobenzene CAS: [608-93-5]	100 µg/ml
Quintozene (Pentachloronitrobenzene) CAS: [82-68-8]	100 µg/ml
Phenanthrene CAS: [85-01-8]	100 µg/ml
Pyrene CAS: [129-00-0]	100 µg/ml
1,2,4,5-Tetrachlorobenzene CAS: [95-94-3]	100 µg/ml
1,2,4-Trichlorobenzene CAS: [120-82-1]	100 µg/ml
1,3,5-Trinitrobenzene CAS: [99-35-4]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane / Benzene (3/1)
- **Art. No.:** **PS53420001**

### VOC / Phenols Standard Solution - 25 components

DESCRIPTION	CONCENTRATION
Benzoic acid CAS: [65-85-0]	100 µg/ml
Benzyl alcohol CAS: [100-51-6]	100 µg/ml
4-Chloro-3-methylphenol CAS: [59-50-7]	100 µg/ml
2-Chlorophenol CAS: [95-57-8]	100 µg/ml
2-Cyclohexyl-4,6-dinitrophenol CAS: [131-89-5]	100 µg/ml
2,4-Dichlorophenol CAS: [120-83-2]	100 µg/ml
2,6-Dichlorophenol CAS: [87-65-0]	100 µg/ml
Diethyl sulfate CAS: [64-67-5]	100 µg/ml
2,4-Dimethylphenol CAS: [105-67-9]	100 µg/ml
2-Methyl-4,6-dinitrophenol CAS: [534-52-1]	100 µg/ml
2,4-Dinitrophenol CAS: [51-28-5]	100 µg/ml
Ethyl methanesulfonate CAS: [62-50-0]	100 µg/ml
Hexachlorophen CAS: [70-30-4]	100 µg/ml

DESCRIPTION	CONCENTRATION
Methyl methanesulfonate CAS: [66-27-3]	100 µg/ml
2-Methylphenol CAS: [95-48-7]	100 µg/ml
3-Methylphenol CAS: [108-39-4]	100 µg/ml
4-Methylphenol CAS: [106-44-5]	100 µg/ml
2-Nitrophenol CAS: [88-75-5]	100 µg/ml
4-Nitrophenol CAS: [100-02-7]	100 µg/ml
Pentachlorophenol CAS: [87-86-5]	100 µg/ml
Phenol CAS: [108-95-2]	100 µg/ml
Resorcinol CAS: [108-46-3]	100 µg/ml
2,3,4,6-Tetrachlorophenol CAS: [58-90-2]	100 µg/ml
2,4,5-Trichlorophenol CAS: [95-95-4]	100 µg/ml
2,4,6-Trichlorophenol CAS: [88-06-2]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane / Methanol (1/1)
- **Art. No.:** **PS53430001**

## EPA 8270D Semivolatile organic compounds by gas chromatography/mass spectrometry (GC/MS)

Semivolatile organic compounds by gas chromatography/mass spectrometry (GC/MS). Method 8270 is used to determine the concentration of semivolatile organic compounds in extracts prepared from many types of solid waste matrices, soils, air sampling media and water samples. Direct injection of a sample may be used in limited applications.

### Semi-Volatiles Mixture 1 - 15 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
Aniline CAS: [62-53-3]	2000 µg/ml	Hexachloroethane CAS: [67-72-1]	2000 µg/ml
Benzyl alcohol CAS: [100-51-6]	2000 µg/ml	2-Methylphenol CAS: [95-48-7]	2000 µg/ml
Bis-(2-chloroethyl)-ether CAS: [111-44-4]	2000 µg/ml	4-Methylphenol CAS: [106-44-5]	2000 µg/ml
Bis-(2-chloro-1-methylethyl)ether CAS: [108-60-1]	2000 µg/ml	N-Nitroso-dimethylamine CAS: [62-75-9]	2000 µg/ml
2-Chlorophenol CAS: [95-57-8]	2000 µg/ml	N-Nitroso-di-n-propylamine CAS: [621-64-7]	2000 µg/ml
1,2-Dichlorobenzene CAS: [95-50-1]	2000 µg/ml	Phenol CAS: [108-95-2]	2000 µg/ml
1,3-Dichlorobenzene CAS: [541-73-1]	2000 µg/ml	2-Picoline CAS: [109-06-8]	2000 µg/ml
1,4-Dichlorobenzene CAS: [106-46-7]	2000 µg/ml		

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS50580001**

## EPA 8275A Semi-volatile organic compounds (PAHs & PCBs) in soils/ sludges and solid wastes using thermal extraction/ Gas chromatography/Mass spectrometry (TE/GC/MS)

Semi-volatile organic compounds (PAHs & PCBs) in soils/ sludges and solid wastes using thermal extraction/ Gas chromatography/Mass spectrometry (TE/GC/MS). Method 8275 is a thermal extraction capillary GC/MS procedure for the rapid quantitative determination of targeted PCBs and PAHs in soils, sludges and solid wastes.

### ACs Internal Standard Mixture - 2 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
2-Fluorobiphenyl CAS: [321-60-8]	1000 µg/ml	Phenanthrene D10 CAS: [1517-22-2]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS53520001**

### PCB / ACs Standard Solution - 19 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
PCB 1 (2-Chlorobiphenyl) CAS: [2051-60-7]	100 µg/ml	PCB 118 CAS: [31508-00-6]	100 µg/ml
PCB 11 CAS: [2050-67-1]	100 µg/ml	PCB 138 (2,2',3,4,4',5'-Hexachlorobiphenyl) CAS: [35065-28-2]	100 µg/ml
PCB 18 CAS: [37680-65-2]	100 µg/ml	PCB 187 (2,2',3,4',5,5',6-Heptachlorobiphenyl) CAS: [52663-68-0]	100 µg/ml
PCB 26 CAS: [38444-81-4]	100 µg/ml	PCB 128 CAS: [38380-07-3]	100 µg/ml
PCB 31 (2,4',5-Trichlorobiphenyl) CAS: [16606-02-3]	100 µg/ml	PCB 180 (2,2',3,4,4',5,5'-Heptachlorobiphenyl) CAS: [35065-29-3]	100 µg/ml
PCB 52 (2,2',5,5'-Tetrachlorobiphenyl) CAS: [35693-99-3]	100 µg/ml	PCB 170 (2,2',3,3',4,4',5-Heptachlorobiphenyl) CAS: [35065-30-6]	100 µg/ml
PCB 49 CAS: [41464-40-8]	100 µg/ml	PCB 194 CAS: [35694-08-7]	100 µg/ml
PCB 44 (2,2',3,5'-Tetrachlorobiphenyl) CAS: [41464-39-5]	100 µg/ml	PCB 206 (2,2',3,3',4,4',5,5',6-Nonachlorobip) CAS: [40186-72-9]	100 µg/ml
PCB 66 (2,3',4,4'-Tetrachlorobiphenyl) CAS: [32598-10-0]	100 µg/ml	PCB 209 CAS: [2051-24-3]	100 µg/ml
PCB 101 (2,2',4,5,5'-Pentachlorobiphenyl) CAS: [37680-73-2]	100 µg/ml		

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS53510001**

## EPA 8310 Polynuclear aromatic hydrocarbons

Polynuclear aromatic hydrocarbons. Method 8310 is used to determine the concentration of certain polynuclear aromatic hydrocarbons (PAH) in ground water and wastes.

### Surrogate Standard Solution - 1 component

DESCRIPTION	CONCENTRATION
Decafluorobiphenyl CAS: [434-90-2]	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS53540001**

## EPA 8315A Determination of Carbonyl Compounds by HPLC

This method provides procedures for the determination of free carbonyl compounds in various matrices by derivatization with 2,4-dinitrophenylhydrazine (DNPH). The method utilizes high performance liquid chromatography (HPLC) with ultraviolet/visible (UV/vis) detection to identify and quantitate the target analytes.

### Carbonyl Compounds Standard Solution - 16 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
Acetaldehyde-DNPH CAS: [1019-57-4]	100 µg/ml	Formaldehyde-DNPH CAS: [1081-15-8]	100 µg/ml
Acetone-DNPH CAS: [1567-89-1]	100 µg/ml	Hexaldehyde-DNPH CAS: [1527-97-5]	100 µg/ml
Acrolein-DNPH CAS: [888-54-0]	100 µg/ml	Isovaleraldehyde-DNPH CAS: [2256-01-1]	100 µg/ml
Benzaldehyde-DNPH CAS: [1157-84-2]	100 µg/ml	Valeraldehyde-DNPH (Pentanal-DNPH) CAS: [2057-84-3]	100 µg/ml
n-Butyraldehyde-DNPH (Butanal-DNPH) CAS: [1527-98-6]	100 µg/ml	Propionaldehyde-DNPH (Propanal-DNPH) CAS: [725-00-8]	100 µg/ml
Crotonaldehyde-DNPH CAS: [1527-96-4]	100 µg/ml	m-Tolualdehyde-DNPH CAS: [2880-05-9]	100 µg/ml
Cyclohexanone-DNPH CAS: [1589-62-4]	100 µg/ml	o-Tolualdehyde-DNPH CAS: [1773-44-0]	100 µg/ml
2,5-Dimethylbenzaldehyde-DNPH CAS: [152477-96-8]	100 µg/ml	p-Tolualdehyde-DNPH CAS: [2571-00-8]	100 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Acetonitrile
- Art. No.: **PS53620001**

### Carbonyl Compounds Standard Solution - 6 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
Valeraldehyde-DNPH (Pentanal-DNPH) CAS: [2057-84-3]	100 µg/ml	Heptaldehyde-DNPH (Heptanal-DNPH) CAS: [2074-05-7]	100 µg/ml
Hexaldehyde-DNPH (Hexanal-DNPH) CAS: [1527-97-5]	100 µg/ml	Octanal-DNPH CAS: [1726-77-8]	100 µg/ml
		Nonanal-DNPH	100 µg/ml
		Decanal-DNPH	100 µg/ml

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Acetonitrile
- Art. No.: **PS53630001**

## EPA 8316 Acrylamide, acrylonitrile and acrolein by HPLC

Acrylamide, acrylonitrile and acrolein by HPLC. Water samples are analyzed by high performance liquid chromatography (HPLC). A 200 µl aliquot is injected into a C-18 reverse-phase column, and compounds in the effluent are detected with an ultraviolet (UV) detector.

### Carbonyl Compounds / NCC Standard Solution - 3 components

DESCRIPTION	CONCENTRATION	DESCRIPTION	CONCENTRATION
Acrolein (2-Propenal) CAS: [107-02-8]	1000 µg/ml	Acrylamide CAS: [79-06-1]	1000 µg/ml
Acrylonitrile CAS: [107-13-1]	1000 µg/ml		

- Vol. 1 ml
- Packaging: Ampoule
- Solvent: Water
- Art. No.: **PS53550001**

See complete range of standards in this QR code



Complete range of standards classified according to ASTM Methods, ISO Methods, EN Standards, contaminant standards, single component solutions and Neat standards.

## EPA 8321A Solvent extractable non volatile compounds by HPLC/ Thermospray/ Mass Spectrometry (HPLC/TS/MS) or ultraviolet (UV) detection

Solvent extractable non volatile compounds by HPLC/ Thermospray/ Mass Spectrometry (HPLC/TS/MS) or ultraviolet (UV) detection. This method covers the use of high performance liquid chromatography (HPLC), coupled with either thermospray-mass spectrometry (TS-MS), and/or ultraviolet (UV), for the determination of disperse azo dyes, organophosphorus compounds, and tris(2,3-dibromopropyl)phosphate, chlorinated phenoxyacid compounds and their esters, and carbamates in wastewater, ground water, and soil/sediment matrices. Data are also provided for chlorophenoxy acid herbicides in fly ash, however, recoveries for most compounds are very poor indicating poor extraction efficiency for these analytes using the extraction procedure included in this method. Additionally, it may apply to other non-volatile compounds that are solvent extractable, are amenable to HPLC, and are ionizable under thermospray introduction for mass spectrometric detection or may be determined by a UV detector.

### Carbamates Mixture - 29 components

DESCRIPTION	CONCENTRATION
Aldicarb CAS: [116-06-3]	100 µg/ml
Aldicarb-sulfone CAS: [1646-88-4]	100 µg/ml
Aldicarb-sulfoxide CAS: [1646-87-3]	100 µg/ml
Aminocarb CAS: [2032-59-9]	100 µg/ml
Barban CAS: [101-27-9]	100 µg/ml
Benomyl CAS: [17804-35-2]	100 µg/ml
Bromacil CAS: [314-40-9]	100 µg/ml
Bendiocarb CAS: [22781-23-3]	100 µg/ml
Carbaryl CAS: [63-25-2]	100 µg/ml
Carbendazim CAS: [10605-21-7]	100 µg/ml
Carbofuran-3-hydroxy CAS: [16655-82-6]	100 µg/ml
Carbofuran CAS: [1563-66-2]	100 µg/ml
Chloroxuron CAS: [1982-47-4]	100 µg/ml
Chlorpropham CAS: [101-21-3]	100 µg/ml
Diuron CAS: [330-54-1]	100 µg/ml

DESCRIPTION	CONCENTRATION
Fenuron CAS: [101-42-8]	100 µg/ml
Fluometuron CAS: [2164-17-2]	100 µg/ml
Linuron CAS: [330-55-2]	100 µg/ml
Methiocarb CAS: [2032-65-7]	100 µg/ml
Methomyl CAS: [16752-77-5]	100 µg/ml
Mexacarbate CAS: [315-18-4]	100 µg/ml
Monuron CAS: [150-68-5]	100 µg/ml
Neburon CAS: [555-37-3]	100 µg/ml
Oxamyl CAS: [23135-22-0]	100 µg/ml
Propachlor CAS: [1918-16-7]	100 µg/ml
Propham CAS: [122-42-9]	100 µg/ml
Propoxur CAS: [114-26-1]	100 µg/ml
Siduron CAS: [1982-49-6]	100 µg/ml
Tebuthiuron CAS: [34014-18-1]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS53580001**

### Chlorinated Phenoxyacid Compounds Mixture - 14 components

DESCRIPTION	CONCENTRATION
Dalapon CAS: [75-99-0]	100 µg/ml
Dicamba CAS: [1918-00-9]	100 µg/ml
2,4-D CAS: [94-75-7]	100 µg/ml
MCPA CAS: [94-74-6]	100 µg/ml
Mecoprop (MCP) CAS: [7085-19-0]	100 µg/ml
Dichlorprop CAS: [120-36-5]	100 µg/ml
2,4,5-T CAS: [93-76-5]	100 µg/ml

DESCRIPTION	CONCENTRATION
Fenoprop (Silvex) CAS: [93-72-1]	100 µg/ml
Dinoseb CAS: [88-85-7]	100 µg/ml
2,4-DB CAS: [94-82-6]	100 µg/ml
2,4-D butoxyethyl ester CAS: [1929-73-3]	100 µg/ml
2,4-D 2-ethylhexyl ester CAS: [1928-43-4]	100 µg/ml
2,4,5-T n-butyl ester CAS: [93-79-8]	100 µg/ml
2,4,5-T-butoxyethyl ester CAS: [2545-59-7]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS53570001**

### Organophosphorus Compounds Mixture - 15 components

DESCRIPTION	CONCENTRATION
Methomyl CAS: [16752-77-5]	100 µg/ml
Thiofanox CAS: [39196-18-4]	100 µg/ml
Famphur CAS: [52-85-7]	100 µg/ml
Asulam CAS: [3337-71-1]	100 µg/ml
Dichlorvos CAS: [62-73-7]	100 µg/ml
Dimethoate CAS: [60-51-5]	100 µg/ml
Disulfoton CAS: [298-04-4]	100 µg/ml
Fensulfothion CAS: [115-90-2]	100 µg/ml

DESCRIPTION	CONCENTRATION
Merphos CAS: [150-50-5]	100 µg/ml
Parathion-methyl CAS: [298-00-0]	100 µg/ml
Monocrotophos CAS: [6923-22-4]	100 µg/ml
Naled CAS: [300-76-5]	100 µg/ml
Phorate CAS: [298-02-2]	100 µg/ml
Trichlorfon CAS: [52-68-6]	100 µg/ml
Tris(2,3-dibromopropyl)phosphate CAS: [126-72-7]	100 µg/ml

- Vol. 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS53560001**

## EPA 8325 Solvent extractable non volatile compounds by High performance liquid chromatography/ particle beam/ Mass spectrometry (HPLC/PB/MS)

Solvent extractable non volatile compounds by High performance liquid chromatography/ particle beam/ Mass spectrometry (HPLC/PB/MS). This method describes the use of high performance liquid chromatography (HPLC), coupled with particle beam (PB) mass spectrometry (MS), for the determination of benzidines and nitrogen-containing pesticides in water and wastewater.

### NCC Standard Solution - 12 components

DESCRIPTION	CONCENTRATION
Benzidine CAS: [92-87-5]	250 µg/ml
Benzoylprop ethyl CAS: [22212-55-1]	350 µg/ml
Carbaryl CAS: [63-25-2]	1000 µg/ml
2-Chlorophenyl thiourea CAS: [5344-82-1]	750 µg/ml
3,3'-Dichlorobenzidine CAS: [91-94-1]	250 µg/ml
3,3'-Dimethoxybenzidine CAS: [119-90-4]	750 µg/ml

DESCRIPTION	CONCENTRATION
3,3'-Dimethylbenzidine CAS: [119-93-7]	350 µg/ml
Diuron CAS: [330-54-1]	450 µg/ml
Linuron CAS: [330-55-2]	1300 µg/ml
Monuron CAS: [150-68-5]	400 µg/ml
Rotenone CAS: [83-79-4]	3200 µg/ml
Siduron CAS: [1982-49-6]	450 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile / Methanol (1/1)
- **Art. No.:** **PS53590001**

### Performance Check Solution - 1 component

DESCRIPTION	CONCENTRATION
Decafluorotriphenylphosphine oxide	100 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Acetonitrile
- **Art. No.:** **PS53600001**

## EPA 8410 Gas chromatography/ Fourier transform infrared (GC/FT-IR) spectrometry for semivolatiles organics: capillary column

Gas chromatography/ Fourier transform infrared (GC/FT-IR) spectrometry for semivolatiles organics: capillary column. This method covers the automated identification, or compound class assignment of unidentifiable compounds, of solvent extractable semivolatiles organic compounds which are amenable to gas chromatography, by GC/FT-IR. GC/FT-IR can be a useful complement to GC/MS analysis (Method 8270).

### Internal Standard Mixture - 2 components

DESCRIPTION	CONCENTRATION
1-Fluoronaphthalene CAS: [321-38-0]	2000 µg/ml

DESCRIPTION	CONCENTRATION
p-Terphenyl D14 CAS: [1718-51-0]	2000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Dichloromethane
- **Art. No.:** **PS50970001**

## EPA 8430 Analysis of bis(2-chloroethyl)ether and hydrolysis products by direct aqueous injection GC/FT-IR

Analysis of bis(2-chloroethyl)ether and hydrolysis products by direct aqueous injection GC/FT-IR. This method provides procedures for the identification and quantitation of bis(2-chloroethyl) ether and its hydrolysis compounds in aqueous matrices by direct aqueous injection (DAI) and gas chromatography with detection by a fourier transform infrared spectrometer (GC/FTIR).

### Ethers and Alcohols Standard Solution - 5 components

DESCRIPTION	CONCENTRATION
Bis-(2-chloroethyl)-ether CAS: [111-44-4]	1000 µg/ml
2-Chloroethanol CAS: [107-07-3]	1000 µg/ml
2-(2-Chloroethoxy)ethanol CAS: [628-89-7]	1000 µg/ml

DESCRIPTION	CONCENTRATION
Diethylene glycol CAS: [111-46-6]	1000 µg/ml
Ethyleneglycol CAS: [107-21-1]	1000 µg/ml

- **Vol.** 1 ml
- **Packaging:** Ampoule
- **Solvent:** Water
- **Art. No.:** **PS53610001**

See complete range of standards in this QR code



Complete range of standards classified according to ASTM Methods, ISO Methods, EN Standards, contaminant standards, single component solutions and Neat standards.





# CHROMATOGRAPHY SUPPLIES

<b>FILTRATION</b>	<b>582</b>
<b>FLASH CHROMATOGRAPHY</b>	<b>586</b>
<b>GC CHROMATOGRAPHY</b>	<b>588</b>
<b>HPLC CHROMATOGRAPHY</b>	<b>597</b>
<b>SPE (SOLID PHASE EXTRACTION)</b>	<b>603</b>
<b>THIN LAYER CHROMATOGRAPHY</b>	<b>614</b>
<b>VIALS</b>	<b>615</b>

**Scharlau**

**Schau**

ExtraBond®

Extra®

FL LOT:151793

FL LOT:151793

# FILTRATION

## FILTRATION: MEMBRANES

### MEMBRANES FOR THE MOBILE PHASE FILTRATION



Scharlau's filtration line has been expanded with newly added filtration membranes for mobile phase filtration. Nylon membranes and Nitrocellulose Mixed Ester membranes of the highest quality are available.

We recommend **using nylon membranes as the standard material for filtering eluents due to their chemical compatibility**. As nylon is hydrophilic in nature, these membranes are appropriate for filtering aqueous solutions and for most of the organic solvents used in HPLC. The nylon membrane has a uniform pore size, consistent flows and a very low level of extractables. It can be exposed to up to 180°C without damage and has a pH range from 3 to 12.

Mixed Ester membranes are composed of a **mixture of inert cellulose nitrate and cellulose acetate polymers**. The uniform microporous structure of these filters provides the fastest flow rates and highest throughputs available in a membrane filter. Their hydrophilic nature makes them ideal for **filtering aqueous solutions, including buffers**. These filters are autoclavable at 121°C (250°F) for 20 minutes. The pH range is from 4 to 10.

#### NYLON

MATERIAL	Ø (mm)	PORUS SIZE (µm)	STERILE	GRID	COLOUR	PACK (U.)	ART. NO.
Nylon	47	0,22	No	No	White	100	NYL4720100
Nylon	47	0,45	No	No	White	100	NYL4745100

#### MIXED ESTER MEMBRANES

MATERIAL	Ø (mm)	PORUS SIZE (µm)	STERILE	GRID	COLOUR	PACK (U.)	ART. NO.
EMC	47	0,22	No	No	White	100	EMC4720100
EMC	47	0,45	No	No	White	100	EMC4745100

See **filtration membranes** in **CONSUMABLES**.



## FILTRATION: SYRINGE FILTERS

### SYRINGE FILTERS



Scharlau syringe filters are used mainly for filtering small aqueous and organic samples prior to chromatography injection. The filtered samples ensure column protection. The filter housing is made of pure PP. The result is a high-quality syringe filter fulfilling the needs of the most demanding chromatographers.

**Nylon:** nylon syringe filters have become the “standard” material due to their wide chemical compatibility and their hydrophobic nature. They can be used for filtering aqueous samples and most solvents.

**Nylon Premium** filters are subjected to a double quality control for the most demanding applications.

**Regenerated cellulose:** regenerated syringe filters have a lower protein retention than those made of nylon and are less extractable than PVDF. Ideal for aqueous solutions.

**PTFE:** syringe filters made of PTFE have the lowest extractables levels and the widest chemical compatibility. They are especially suitable for filtering solvents due to their hydrophobic nature. Designed for filtering the most aggressive solvents and strongest acids and bases. Also available in hydrophilic version.

**Mixed cellulose esters:** Filters composed of cellulose acetate and cellulose nitrate. Because it is biologically inert it is one of the most widely used membranes in analytical and research applications.

**PVDF:** polyvinylidene fluoride syringe filters are indicated for the filtration of protein samples due to their very low retention.

**PP:** filters of hydrophobic PP (polypropylene), great resistance to solvents, very low protein binding and good thermal compatibility. They are used for general filtration of biological samples, solvents, deionised water. Commonly used for UHPLC.

**PES:** The new sterile syringe filters Scharlab PES (polyethersulfone) of 25 mm diameter, 0,22 µm and 0,45 µm pore size. These filters are commonly used in molecular biology, filtration of culture media since they have a very low protein binding, high performance and low extractables level, providing maximum recovery.

### NYLON PREMIUM

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
Nylon	13	0,22	No	500	NY13020500
Nylon	13	0,22	No	1000	NY13021000
Nylon	13	0,45	No	200	NY13045200
Nylon	13	0,45	No	1000	NY13041000
Nylon	25	0,22	No	200	NY25020200
Nylon	25	0,22	No	1000	NY25021000
Nylon	25	0,45	No	200	NY25045200
Nylon	25	0,45	No	1000	NY25041000

### NYLON

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
Nylon	13	0,22	No	200	NYL1320200
Nylon	13	0,22	No	1000	NYL1321000
Nylon	13	0,45	No	200	NYL1345200
Nylon	13	0,45	No	1000	NYL1341000
Nylon	25	0,22	No	200	NYL2520200
Nylon	25	0,22	No	1000	NYL2521000
Nylon	25	0,45	No	200	NYL2545200
Nylon	25	0,45	No	1000	NYL2541000



## REGENERATED CELLULOSE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
CR	13	0,22	No	1000	CR13021000
CR	13	0,45	No	1000	CR13041000
CR	25	0,22	No	200	CR25020200
CR	25	0,22	No	1000	CR25021000
CR	25	0,45	No	200	CR25045200
CR	25	0,45	No	1000	CR25041000

## PTFE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
PTFE	13	0,22	No	200	PTF1320200
PTFE	13	0,22	No	1000	PTF1321000
PTFE	13	0,45	No	200	PTF1345200
PTFE	13	0,45	No	1000	PTF1341000
PTFE	25	0,22	No	200	PTF2520200
PTFE	25	0,22	No	1000	PTF2521000
PTFE	25	0,45	No	200	PTF2545200
PTFE	25	0,45	No	1000	PTF2541000

## HYDROPHILIC PTFE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
Hydrophilic PTFE	13	0,22	No	200	PTH1320200
Hydrophilic PTFE	13	0,45	No	200	PTH1345200
Hydrophilic PTFE	25	0,22	No	200	PTH2520200
Hydrophilic PTFE	25	0,45	No	200	PTH2545200

## MIXED CELLULOSE ESTERS

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
MCE	13	0,22	No	200	MCE1320200
MCE	13	0,45	No	200	MCE1345200
MCE	25	0,22	No	200	MCE2520200
MCE	25	0,45	No	200	MCE2545200

## PVDF

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
PVDF	13	0,22	No	200	PVD1320200
PVDF	13	0,22	No	1000	PVD1321000
PVDF	13	0,45	No	200	PVD1345200
PVDF	13	0,45	No	1000	PVD1341000
PVDF	25	0,22	No	200	PVD2520200
PVDF	25	0,22	No	1000	PVD2521000
PVDF	25	0,45	No	200	PVD2545200

## POLYPROPYLENE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
Polypropylene	13	0,22	No	200	PPL1320200
Polypropylene	13	0,22	No	1000	PPL1321000
Polypropylene	13	0,45	No	200	PPL1345200
Polypropylene	13	0,45	No	1000	PPL1341000
Polypropylene	25	0,22	No	200	PPL2520200
Polypropylene	25	0,22	No	1000	PPL2521000
Polypropylene	25	0,45	No	200	PPL2545200
Polypropylene	25	0,45	No	1000	PPL2541000

### HYDROPHILIC POLYPROPYLENE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
Hydrophilic Polypropylene	13	0,22	No	200	PPH1320200
Hydrophilic Polypropylene	13	0,45	No	200	PPH1345200
Hydrophilic Polypropylene	25	0,22	No	200	PPH2520200
Hydrophilic Polypropylene	25	0,45	No	200	PPH2545200

### PES

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
PES	13	0,22	No	200	PES1320200
PES	13	0,45	No	200	PES1345200
PES	25	0,22	No	200	PES2520200
PES	25	0,45	No	200	PES2545200
PES	25	0,22	Yes	50	PES252250S
PES	25	0,45	Yes	50	PES254550S

### CELLULOSE ACETATE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
CA	13	0,22	No	200	CEA1320200
CA	13	0,45	No	200	CEA1345200
CA	25	0,22	No	200	CEA2520200
CA	25	0,45	No	200	CEA2545200

# Get outstanding results in HPLC with Scharlau

Columns · Vials · Syringe filters · Solvents





# FLASH CHROMATOGRAPHY

## FLASH CHROMATOGRAPHY

### EXTRABOND® FLASH CARTRIDGES

The Flash chromatography technique is increasingly used for synthesis and purification. Universal ExtraBond® Flash cartridges are available from Scharlab.

- Ultra-clean Polypropylene Cartridges
- Guaranteed no leaks at 100 psi (6,9 bar)
- Bundled with ExtraBond® ultrapure silica (40-63 µm, 60 Å)
- Narrow particle size distribution
- pH neutral
- Water content controlled
- Variety of available phases: C18, Amino, Cyano, Diol, SCX...
- Variety of formats (4, 12, 25, 40, 80, 120, 220 and 330 g)
- Innovative packaging
- Very good resolution, no tails
- Lot to lot reproducibility
- Also available high efficiency silica (20-40 µm)

Compatible with the following equipment:

- Teledyne Isco: CombiFlash® (Rf, Companion®, Retrieve®, Optix®)
- Biotage: Isolera®, SP®, Flash+, FlashMater II
- Analogix (Varian): IntelliFlash 310 and 280, SimpliFlash, F12/40
- Interchim (PuriFlash® 430evo)
- Armen (Spot Flash System)
- Moritex: Purif-α2, Purif-compact
- Yamazen (W-Prep 2XY)
- Buchi (Sepacore®)
- Grace Reveleris

Contact [helpdesk@scharlab.com](mailto:helpdesk@scharlab.com) indicating your Flash computer model and we will confirm the compatibility. Ask for samples!

### EXTRABOND® FLASH. LUER LOCK INPUT. LUER OUTPUT

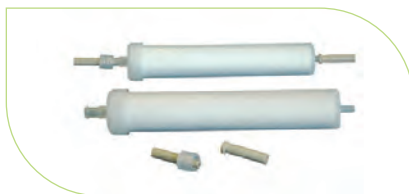


PHASE	MASS (g)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
Silica	4	60	40-63	20	FLASIL04GA
Silica	12	60	40-63	20	FLASIL12GA
Silica	25	60	40-63	15	FLASIL25GE
Silica	40	60	40-63	15	FLASIL40GE
Silica	80	60	40-63	12	FLASIL80GF
Silica	120	60	40-63	10	FLASIL120X
Silica	220	60	40-63	4	FLASIL220G
Silica	330	60	40-63	4	FLASIL330G
C18	4	60	40-63	20	FLAC1804GA
C18	12	60	40-63	20	FLAC1812GA
C18	330	60	40-63	4	FLAC18330G

**ADAPTERS. EXTRABOND® FLASH FITS VIRTUALLY ANY UNIT DIRECTLY. HOWEVER, FOR SOME MODELS ADAPTERS ARE REQUIRED. CONTACT [helpdesk@scharlab.com](mailto:helpdesk@scharlab.com) INDICATING YOUR FLASH COMPUTER MODEL AND WE WILL CONFIRM COMPATIBILITY.**



New-line (Art. No. SOLVBIOTAG)



Adapters (Art. No. ADAPBIOTAG)

DESCRIPTION	PACK (U.)	ART. NO.
New-line adapters, Biotage SP1 and SP4	1	SOLVBIOTAG
Adapter for Flash Master®	1	ADAPFLASMA

**GUARD COLUMNS/CHARGERS. FOR BOTH LOADING SOLID SAMPLES AND DRY LOAD, A PLUNGER IS USED AND A CARTRIDGE FOR LOAD (EMPTY OR FILLED) CONNECTED TO EXTRABOND® FLASH AS SHOWN IN FIGURE A.**

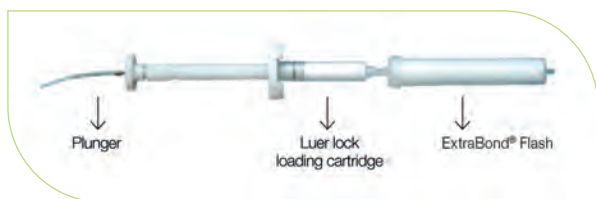


Figure A

DESCRIPTION	PACK (U.)	ART. NO.
Plunger for 10 ml cartridges (16 mm)	1	PLUNGER-10
Plunger for 60 ml cartridges (27 mm)	1	PLUNGER-60
10 ml empty load cartridge with 2 frits	100	CHAREMP-10
60 ml empty load cartridge with 2 frits	100	CHAREMP-60
10 ml cartridge, 5 g SI	20	CHARSIL05G
60 ml cartridge, 25 g SI	16	CHARSIL25G

## EXTRABOND® FLASH SLL – SCREW LUER LOCK

Hand screw-on head cap columns with luer lock design at both top and bottom. These are universal cartridges compatible with most flash equipment including Biotage and Isco. Designed to be used with or without a spacer inside for solid sample method.

### EXTRABOND® FLASH SLL WITHOUT SPACER



ExtraBond® Flash SLL without spacer

PHASE	MASS (G)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
Silica	12	60	40-60	20	FLLNSI12GA
Silica	20	60	40-60	20	FLLNSI20GA
Silica	40	60	40-60	10	FLLNSI40GX
Silica	80	60	40-60	5	FLLNSI80GV
Silica	120	60	40-60	5	FLLNSI120V
C18	12	60	40-60	20	FLLN1812GA
C18	20	60	40-60	20	FLLN1820GA
C18	40	60	40-60	10	FLLN1840GX
C18	80	60	40-60	5	FLLN1880GV

### EXTRABOND® FLASH SLLS – SCREW LUER LOCK WITH SPACER. SPACER MUST BE PURCHASED SEPARATELY.

PHASE	MASS (G)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
Silica	12	60	40-60	20	FLLSSI12GA
Silica	20	60	40-60	20	FLLSSI20GA
Silica	40	60	40-60	10	FLLSSI40GX
Silica	80	60	40-60	5	FLLSSI80GV
Silica	120	60	40-60	5	FLLSSI120V
C18	12	60	40-60	20	FLLS1812GA
C18	20	60	40-60	20	FLLS1820GA
C18	40	60	40-60	10	FLLS1840GX
C18	80	60	40-60	5	FLLS1880GV
C18	120	60	40-60	5	FLLS18120V

# GC CHROMATOGRAPHY

## GC COLUMNS

### Scharlau GC columns

After more than 40 years selling Scharlau HPLC Columns, the Scharlau GC columns range was launched. Scharlab offers a wide range of GC Capillary Columns, with more than 2,500 articles available.

Scharlau GC columns are manufactured in fused silica, according the highest quality standards. More than 10 stationary phases are available in all dimensions.

The quality of these columns is guaranteed by testing each individual column using the Grob Test Mixture that confirms the high efficiency of our products.

Scharlau GC column portfolio includes GC-MS low bleeding columns, FAST and HT columns. Additionally, Scharlab offers the possibility to customise the column, producing special columns to solve each customer's specific analytical problems.

- One of the most complete ranges of analytical columns for GC, GC-MS, FAST-GC and High Temperature GC.
- Excellent efficiency and inertness; we produce and test each column one-by-one to ensure maximum column-to-column reproducibility and quality.
- Customised products on request.
- Support and services for your GC analysis.



## SC-1 COLUMNS

Phase: **100% Methyl Polysiloxane.**

Non-polar.

Suitable for all routine analyses.

USP Classification: G1, G2, G9, G38.

EPA Methods / Normatives: EPA 504.1, 505, 551, 606, 612, 8141A/B.

Application areas: suitable for analysis of hydrocarbons, aromatics, pesticides, phenol, herbicides, ketones, drugs of abuse, phthalates esters.

Suitable replacement for: DB-1, HP-1, CP-Sil 5 CB, SPB-1, Rtx-1, ZB-1, BP1, AT-1, 007-1.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	MAX. T (°C)	PACK (U.)	ART. NO.
SC-1	0,25	0,25	15	350	1	SC11521006
SC-1	0,25	0,25	25	350	1	SC12521007
SC-1	0,25	0,25	30	350	1	SC13021008
SC-1	0,25	0,25	50	350	1	SC15021009
SC-1	0,32	0,50	60	320	1	SC16021045
SC-1	0,32	1,00	25	300	1	SC12521047
SC-1	0,32	5,00	30	300	1	SC13021063
SC-1	0,53	0,25	15	350	1	SC11521071
SC-1	0,53	0,50	30	320	1	SC13021078

**SC-5 COLUMNS**



Phase: **5% Phenyl / 95% Methyl Polysiloxane.**  
 Excellent general purpose GC column.  
 Non-polar.  
 USP Classification: G27, G36, G41.  
 EPA Methods / Normatives: EPA 611/8110, 604, 606, 607, 608/8081, 609, 612, 613, 615, 619, 622, 8015B, 8041, 8061A, 8082, 8091, 8121, 8141.  
 Application areas: pesticides, herbicides, drugs of abuse, alkyl naphthalens, haloethers, phenols, chlorinated hydrocarbons, nitrosamines.  
 Suitable replacement for: DB-5, Rtx-5, HP-5, BP-5, SPB-5, CP-Sil 8CB, VB-5, ZB-5, AT-5, 007-5.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	MAX. T (°C)	PACK (U.)	ART. NO.
SC-5	0,25	0,25	30	350	1	SC53022008
SC-5	0,25	0,25	60	350	1	SC56022010
SC-5	0,25	1,00	15	320	1	SC51522016
SC-5	0,32	0,25	60	350	1	SC56022035
SC-5	0,32	1,50	30	300	1	SC53022053
SC-5	0,53	0,50	30	320	1	SC53022078
SC-5	0,53	1,50	15	300	1	SC51522086
SC-5	0,53	1,50	60	300	1	SC56022090
SC-5	0,53	3,00	30	300	1	SC53022093
SC-5	0,53	5,00	30	300	1	SC53022098

**SC-35 COLUMNS**

Phase: **35% Phenyl / 65% Methyl Polysiloxane.**  
 Excellent general purpose GC column.  
 Intermediate polarity.  
 USP Classification: G27, G36, G41.  
 EPA Methods / Normatives: EPA 513, 528, 604, 606, 610, 613, 625, 1625, 1653, 8100, 8141A/B.  
 Application areas: alkyl naphthalens, haloethers, phenols, chlorinated hydrocarbons, nitrosamines, pesticides, herbicides, drugs of abuse.  
 Suitable replacement for: DB-35, HP-35, SPB-35, SPB-608, Rtx-35, ZB-1, 007-11, BPX-35, BPX-608.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	MAX. T (°C)	PACK (U.)	ART. NO.
SC-35	0,25	0,25	15	340	1	SC35159001
SC-35	0,25	0,25	30	340	1	SC35309002
SC-35	0,25	0,25	60	340	1	SC35609003
SC-35	0,32	0,25	30	340	1	SC35309005
SC-35	0,32	0,50	30	340	1	SC35309006

**SC-50 COLUMNS**

Phase: **50% Phenyl / 50% Methyl Polysiloxane.**  
 Excellent general purpose GC column.  
 Mid to High polarity.  
 USP Classification: G3, G17.  
 EPA Methods / Normatives: EPA 604, 608, 619, 8060, 8081.  
 Application areas: drug screening, steroids, triazines/herbicides and a variety of pharmaceutical applications.  
 Suitable replacement for: DB-17, HP-17, CP-Sil 24 CB, SPB-50, Rxi-17, ZB-50, BPX50, 007-17, AT-50.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	MAX. T (°C)	PACK (U.)	ART. NO.
SC-50	0,25	0,15	30	340	1	SC50306003
SC-50	0,25	0,25	30	340	1	SC50306008
SC-50	0,25	0,45	15	340	1	SC50156011
SC-50	0,53	1,00	60	340	1	SC50606065

## SC-624 COLUMNS



Phase: **6% Cyanopropylphenyl 94% Methyl Polysiloxane.**

Excellent general purpose GC column.

Intermediate polarity.

USP Classification: G43, 467 (OVIs).

EPA Methods / Normatives: EPA 501.3, 502.1, 502.2, 503.1, 504.1, 524.2, 601, 602, 603, 624, 1624, 8010B, 8021B, 8030A, 8260B.

Application areas: EPA method 624, chlorinated hydrocarbons, drinking water volatiles, solvents.

Suitable replacement for: DB-624, CP-1301, HP-624, Rtx-624, Rtx-1301, ZB-624, BP624, 007-624, 007-1301, AT-624.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	MAX. T. (°C)	PACK (U.)	ART. NO.
SC-624	0,25	1,40	30	260	1	SC63026003
SC-624	0,25	1,40	60	260	1	SC66026005
SC-624	0,32	1,80	60	260	1	SC66026010
SC-624	0,53	3,00	30	260	1	SC63026018

## SC-1701 COLUMNS

Phase: **14% Cyanopropylphenyl 86% Methyl Polysiloxane.**

Excellent general purpose GC column.

Intermediate polarity.

USP Classification: G46.

EPA Methods / Normatives: EPA 513, 515.2, 552.2, 607, 619, 622, 8091, 8121.

Application areas: organophosphorus pesticides, food packaging residual solvents.

Suitable replacement for: DB-1701, VF-1701, VF-1701MS, CP-Sil 19CB, Rtx-1701, ZB-1701, BP10, 007-1701, AT-1701.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	MAX. T. (°C)	PACK (U.)	ART. NO.
SC-1701	0,25	0,25	30	280	1	SC17307008
SC-1701	0,25	1,00	60	270	1	SC17607020
SC-1701	0,32	0,25	15	280	1	SC17157031
SC-1701	0,32	1,00	60	270	1	SC17607050
SC-1701	0,32	1,50	15	270	1	SC17157051
SC-1701	0,32	1,50	30	270	1	SC17307053
SC-1701	0,53	1,00	30	270	1	SC17307073

## SC-225 COLUMNS

Phase: **25% Cyanopropyl, 25% phenyl, 50% Methyl Polysiloxane.**

Excellent general purpose GC column.

Mid to High polarity.

USP Classification: G7, G19.

Application areas: organophosphorus pesticides, food packaging residual solvents.

Suitable replacement for: DB-225, HP-225, CP-Sil 43CB, SPB-225, Rtx-225, BP225, 007-225, AT-225.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	MAX. T. (°C)	PACK (U.)	ART. NO.
SC-225	0,25	0,25	30	260	1	SC23028008
SC-225	0,32	1,00	15	260	1	SC21528046
SC-225	0,53	0,25	15	260	1	SC21528061
SC-225	0,53	1,00	30	260	1	SC23028073

## SC-23 COLUMNS

Phase: **50% Cyanopropyl, 50% Methyl Polysiloxane.**

Excellent general purpose GC column.

Mid to High polarity.

USP Classification: G8.

Application areas: organophosphorus pesticides, food packaging residual solvents.

Suitable replacement for: VF-23MS, DB-23, Silar-5, Rtx-2330, SP-2330.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	MAX. T. (°C)	PACK (U.)	ART. NO.
SC-23	0,25	0,25	30	260	1	SC33024003
SC-23	0,25	0,25	60	260	1	SC36024005
SC-23	0,32	0,25	30	260	1	SC33024008
SC-23	0,32	0,25	60	260	1	SC36024010
SC-23	0,53	0,25	30	260	1	SC33024013

## SC-WAX COLUMNS

Phase: **Polyethylene Glycol (PEG)**.  
Industry standard wax column.  
Polar phase.  
Cross-linked for stability and washing.  
USP Classification: G14, G15, G16, G20, G39, G47, USP 467 (OVIs).  
EPA Methods / Normatives: EPA 602, 603, 619, 8121.  
Application areas: purgeable aromatics (EPA Method 602), Dimethylanilines, FAMES -C4-C18, FAMES C6-C24, nitrosoamines, herbicides, triazines (EPA Method 619).  
Suitable replacement for: VF-23MS, DB-23, Silar-5, Rtx-2330, SP-2330.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	MAX. T. (°C)	PACK (U.)	ART. NO.
SC-WAX	0,25	0,25	30	250	1	SCW3023008
SC-WAX	0,32	0,15	30	250	1	SCW3023023
SC-WAX	0,53	0,25	30	250	1	SCW3023053
SC-WAX	0,53	0,50	30	250	1	SCW3023058
SC-WAX	0,53	1,00	15	250	1	SCW1523061
SC-WAX	0,53	1,00	60	250	1	SCW6023065

## SC-FFAP COLUMNS



Phase: **Polyethylene glycol (PEG) Acid Modified**.  
Polar Phase.  
Ideal for low molecular weight acids.  
USP Classification: G14, G15, G16, G25, G35, G39.  
Application areas: Volatile free acids, organic acids, amides, flavors and fragrances compounds.  
Suitable replacement for: DB-FFPA, HP-FFPA, CP-Wax 58CB, SPB-1000, Stabilwax-DA, ZB-FFAP, BP21, 007-FFAP, AT-1000.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	MAX. T. (°C)	PACK (U.)	ART. NO.
SC-FFAP	0,25	0,25	15	250	1	SCF1525006
SC-FFAP	0,25	0,25	30	250	1	SCF3025008
SC-FFAP	0,25	0,25	60	250	1	SCF6025010
SC-FFAP	0,32	0,25	30	250	1	SCF3025028
SC-FFAP	0,32	0,50	50	250	1	SCF5025039
SC-FFAP	0,53	1,00	15	250	1	SCF1525061

## SC-1MS COLUMNS

Composition: **100% Methyl Polysiloxane**.  
Apolar.  
USP classification: G1, G2, G9, G38.  
EPA methods: EPA 504.1, 505, 606.  
Alternative to: AT™-1 ms, BPX™-1, CP-Sil™ 5 CB ms, DB™-1 ms, Equity™-1, HP™-1 ms, Rtx™-1 ms, SPB™-1, ZB™-1 ms.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-1MS	0,25	0,25	15	1	SCMS110049
SC-1MS	0,25	0,25	30	1	SCMS110050
SC-1MS	0,32	0,25	30	1	SCMS110074
SC-1MS	0,53	0,25	15	1	SCMS110099

## SC-17MS COLUMNS

Composition: **50% Phenyl, 50% Methyl Polysiloxane**.  
Mid to high polarity.  
USP classification: G3, G17.  
Alternative to: DB™-17 ms, Rtx™-17 Sil ms.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-17MS	0,25	0,25	15	1	SCMS170049
SC-17MS	0,25	0,25	30	1	SCMS170050
SC-17MS	0,32	0,25	15	1	SCMS170073
SC-17MS	0,32	1,00	30	1	SCMS170086
SC-17MS	0,53	0,25	30	1	SCMS170100



## SC-225MS COLUMNS

Composition: **25% Cyanopropyl, 25% Phenyl, 50% Methyl Polysiloxane.**  
Mid to high polarity.  
USP classification: G7, G19.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-225MS	0,25	0,25	15	1	SCMS225021
SC-225MS	0,32	0,25	30	1	SCMS225034

## SC-35MS COLUMNS

Composition: **5% Phenyl, 65% Methyl Polysiloxane.**  
Mid to high polarity.  
USP classification: G28, G32, G42.  
Alternative to: DB™-35 ms, Rtx™-35 Sil ms, MR2, BPX™-35, BPX™-608.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-35MS	0,25	0,25	30	1	SCMS350050
SC-35MS	0,32	0,10	10	1	SCMS350066
SC-35MS	0,32	1,50	60	1	SCMS350094
SC-35MS	0,53	0,25	30	1	SCMS350100

## SC-5MS COLUMNS

Composition: **5% Phenyl, 95% Methyl Polysiloxane.**  
Low polarity.  
USP classification: G27, G36, G41.  
EPA methods: EPA 513, 528, 604, 606, 610, 613, 625, 1625, 1653, 8100, 8141A/B.  
Alternative to: 007™-5 ms, AT™-5 ms, BPX™-5, DB™-5 ms, DB™-Ultra 2, HP™-5 ms, Rtx™-5 ms, SPB™-5, Equity™-5 ms, ZB™-5 ms.



PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-5MS	0,25	0,10	15	1	SCMS500044
SC-5MS	0,25	0,10	30	1	SCMS500045
SC-5MS	0,25	0,10	50	1	SCMS500046
SC-5MS	0,25	0,25	50	1	SCMS500051
SC-5MS	0,25	0,25	60	1	SCMS500052
SC-5MS	0,32	0,25	30	1	SCMS500074
SC-5MS	0,32	0,25	50	1	SCMS500075

## SC-624MS COLUMNS

Composition: **6% Cyanopropylphenyl, 94% Methyl Polysiloxane.**  
**Low bleeding.**  
Mid-polarity Stationary Phase.  
USP classification: G43.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-624MS	0,25	0,25	50	1	SCMS624030
SC-624MS	0,32	0,10	50	1	SCMS624055
SC-624MS	0,53	0,25	30	1	SCMS624097

## SC-WAXMS COLUMNS



Composition: **Polyethylenglycol (PEG)**.  
High polarity.  
USP polarity: G14, G15, G16, G20, G39, G47, USP 467 (OVIs).  
EPA methods: EPA 602, 603, 619.  
Alternative to: 007™-CW, AT™-Wax ms, BP™-20, VF™-Wax ms, DB™-Wax, HP™-Wax, OmegaWax™, Stabilwax™, ZB™-Wax plus.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-WAX MS	0,25	0,10	30	1	SCMSWAX037
SC-WAX MS	0,25	0,10	50	1	SCMSWAX038
SC-WAX MS	0,25	0,25	60	1	SCMSWAX044
SC-WAX MS	0,32	0,25	30	1	SCMSWAX066
SC-WAX MS	0,53	0,50	30	1	SCMSWAX103

## SC-1 FAST COLUMNS

Composition: **100% Methyl Polysiloxane**.  
Apolar Alternative to: 007™-1, AT™-1, BP™-1, CP Sil 5CB, DB™-1, OV™-1, HP™-1, Rtx™-1, SPB™-1, ZB™-1.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-1 FAST	0,05	0,05	5	1	SC1F110001
SC-1 FAST	0,10	0,10	10	1	SC1F110005
SC-1 FAST	0,10	0,20	10	1	SC1F110008

## SC-10 FAST COLUMNS

Composition: **100% Cyanopropyl Polysiloxane**.  
High polarity.  
USP classification: G5, G8, G48.  
Alternative to: AT™-Silar, BPX™-70, CP-Sil™88, HP™-88, Rtx™-2560, SP™-2560, SP™-2331, SP™-2380.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-10 FAST	0,18	0,10	10	1	SC10F12001
SC-10 FAST	0,20	0,20	20	1	SC10F12005

## SC-13 FAST COLUMNS

Composition: **13% Phenyl, 87% Methyl Polysiloxane**.  
Intermediate polarity.  
EPA methods: EPA 601, 602, 624.  
Alternative to: Cp-Sil™ 13 CB.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-13 FAST	0,05	0,05	5	1	SC13F13001
SC-13 FAST	0,10	0,10	10	1	SC13F13005
SC-13 FAST	0,10	0,20	10	1	SC13F13008

## SC-17 FAST COLUMNS

Composition: **50% Phenyl, 50% Methyl Polysiloxane**.  
Mid to High polarity.  
USP classification: G3, G17.  
EPA methods: EPA 604, 608, 619, 8060, 8081.  
Alternative to: 007™-17, AT™-50, BPX™-50, CP Sil™ 24 CB, DB™-17, HP™-17, Rtx™-17, SPB™-50, ZB™-50.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-17 FAST	0,05	0,05	5	1	SC17F15001
SC-17 FAST	0,10	0,10	10	1	SC17F15005
SC-17 FAST	0,10	0,20	10	1	SC17F15008

## SC-1701 FAST COLUMNS



Composition: **14% Cyanopropylphenyl, 86% Methyl Polysiloxane.**

Intermediate polarity.

USP classification: G46.

EPA methods: EPA 513, 515.2, 552.2, 607, 619, 622, 8091, 8121.

Alternative to: 07<sup>TM</sup>-1701, AT<sup>TM</sup>-1701, BP<sup>TM</sup>-10, CP-Sil<sup>TM</sup> 19 CB, DB<sup>TM</sup>-1701, HP<sup>TM</sup>-1701, OV<sup>TM</sup>-1701, Rtx<sup>TM</sup>-1701, SPB<sup>TM</sup>-1701, VF<sup>TM</sup>-1701 ms, ZB<sup>TM</sup>-1701.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-1701 FAST	0,05	0,05	5	1	SC17F16001
SC-1701 FAST	0,10	0,10	10	1	SC17F16005
SC-1701 FAST	0,10	0,20	10	1	SC17F16008

## SC-20 FAST COLUMNS

Composition: **20% Phenyl, 80% Methyl Polysiloxane.**

Intermediate polarity.

USP classification: G28, G32.

Alternative to: 007<sup>TM</sup>-7, AT<sup>TM</sup>-20, Rtx<sup>TM</sup>-20, SPB<sup>TM</sup>-20.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-20 FAST	0,05	0,05	5	1	SC20F17001
SC-20 FAST	0,10	0,10	10	1	SC20F17005
SC-20 FAST	0,10	0,20	10	1	SC20F17008

## SC-200 FAST COLUMNS

Composition: **Trifluoropropyl Methyl Polysiloxane.**

High polarity.

USP classification: G6.

Alternative to: 007<sup>TM</sup>-210, AT<sup>TM</sup>-210, DB<sup>TM</sup>-200, DB<sup>TM</sup>-210, OV<sup>TM</sup>-202, OV<sup>TM</sup>-210, OV<sup>TM</sup>-215, Rtx<sup>TM</sup>-200, SP<sup>TM</sup>-2401, VF<sup>TM</sup>-200 ms.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-200 FAST	0,05	0,05	5	1	SC20F18001
SC-200 FAST	0,10	0,10	10	1	SC20F18005
SC-200 FAST	0,10	0,20	15	1	SC20F18009

## SC-225 FAST COLUMNS

Composition: **25% Cyanopropyl, 25% Phenyl, 50% Methyl Polysiloxane.**

Mid to High polarity.

USP classification: G7, G19.

Alternative to: 007<sup>TM</sup>-225, AT<sup>TM</sup>-225, BP<sup>TM</sup>-225, CP-Sil<sup>TM</sup> 43 CB, DB<sup>TM</sup>-225, HP<sup>TM</sup>-225, OV<sup>TM</sup>-225, Rtx<sup>TM</sup>-225.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-225 FAST	0,05	0,05	5	1	SC22F19001
SC-225 FAST	0,10	0,10	10	1	SC22F19005
SC-225 FAST	0,10	0,20	15	1	SC22F19009

## SC-35 FAST COLUMNS

Composition: **35% Phenyl, 65% Methyl Polysiloxane.**

Intermediate polarity.

Alternative to: DB<sup>TM</sup>-35, Rtx<sup>TM</sup>-35, MR2, 007<sup>TM</sup>-11, BPX<sup>TM</sup>-35, BPX<sup>TM</sup>-608, SPB<sup>TM</sup>-35, SPB<sup>TM</sup>-608.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-35 FAST	0,05	0,05	5	1	SC35F20001
SC-35 FAST	0,10	0,10	10	1	SC35F20005
SC-35 FAST	0,10	0,20	10	1	SC35F20008

### SC-5 FAST COLUMNS

Composition: **5% Phenyl, 95% Methyl Polysiloxane.**  
 Low polarity.  
 USP classification: G27, G36, G41.  
 EPA methods: EPA 611/8110, 604, 606, 607, 608/8081, 609, 612, 613, 615, 619, 622, 8015B, 8041, 8061A, 8082, 8091, 8121, 8141A.  
 Alternative to: 007<sup>TM</sup>-5, AT<sup>TM</sup>-5, BP<sup>TM</sup>-5, CP-Sil<sup>TM</sup> 8 CB, DB<sup>TM</sup>-5, HP<sup>TM</sup>-5 OV<sup>TM</sup>-5, Rtx<sup>TM</sup>-5, SPB<sup>TM</sup>-5, ZBT<sup>TM</sup>-5.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-5 FAST	0,05	0,05	5	1	SC5F210001
SC-5 FAST	0,10	0,10	10	1	SC5F210005
SC-5 FAST	0,10	0,20	15	1	SC5F210009

### SC-50 FAST COLUMNS

Composition: **50% Cyanopropyl, 50% Methyl Polysiloxane.**  
 Mid to high polarity.  
 USP classification: G8.  
 Alternative to: DB<sup>TM</sup>-23, Silar<sup>TM</sup>-5, Rtx<sup>TM</sup>-2330, SP<sup>TM</sup>-2330.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-50 FAST	0,18	0,10	20	1	SC50F22002
SC-50 FAST	0,20	0,10	20	1	SC50F22004

### SC-624 FAST COLUMNS



Composition: **6% Cyanopropylphenyl, 94% Methyl Polysiloxane.**  
 Intermediate polarity.  
 USP classification: G43, 467 (OVIs).  
 EPA methods: EPA 501.3, 502.1, 502.2, 503.1, 504.1, 524.2, 601, 602, 603, 624, 1624, 8010B, 8021B, 8030A, 8260B.  
 Alternative to: 007<sup>TM</sup>-624, 007<sup>TM</sup>-1301, AT<sup>TM</sup>-624, CP<sup>TM</sup>-1301, DBTM-1301, DB<sup>TM</sup>-624, HP<sup>TM</sup>-1301, HP<sup>TM</sup>-624, Rtx<sup>TM</sup>-624, Rtx<sup>TM</sup>-1301, SPB<sup>TM</sup>-1301, SPB<sup>TM</sup>-624, VF<sup>TM</sup>-624 ms, Voccol<sup>TM</sup>, ZB<sup>TM</sup>-624.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-624 FAST	0,05	0,05	5	1	SC62F23001
SC-624 FAST	0,10	0,10	10	1	SC62F23005
SC-624 FAST	0,10	0,40	5	1	SC62F23010
SC-624 FAST	0,15	0,15	30	1	SC62F23017

### SC-ACID FAST COLUMNS

Composition: **Polyethylene glycol (PEG) Acid Modified.**  
 High polarity.  
 USP classification: G14, G15, G16, G25, G35, G39.  
 Alternative to: 007<sup>TM</sup>-FFAP, AT<sup>TM</sup>-1000, BP<sup>TM</sup>-21, CP<sup>TM</sup>-Wax 58 CB, DB<sup>TM</sup>-FFAP, Nukol<sup>TM</sup>, SPB<sup>TM</sup>-1000, Stabilwax-DA.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-ACID FAST	0,05	0,05	5	1	SCACF25001
SC-ACID FAST	0,10	0,10	10	1	SCACF25005
SC-ACID FAST	0,10	0,20	10	1	SCACF25008

## SC-1 HT COLUMNS

Composition: **100% Methyl Polysiloxane** for High temperature.  
Apolar.  
Stable up to 400°C.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-1 HT	0,10	0,10	5	1	SC1HT31001
SC-1 HT	0,10	0,10	10	1	SC1HT31002
SC-1 HT	0,25	0,10	15	1	SC1HT31003
SC-1 HT	0,32	0,15	15	1	SC1HT31011
SC-1 HT	0,53	0,10	15	1	SC1HT31017
SC-1 HT	0,53	0,15	30	1	SC1HT31022

## SC-5 HT COLUMNS

Composition: **5% Phenyl, 95% Methyl Polysiloxane** for High Temperature.  
Low polarity.  
Stable up to 400°C.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-5 HT	0,10	0,10	5	1	SC5HT32001
SC-5 HT	0,10	0,10	10	1	SC5HT32002
SC-5 HT	0,10	0,10	5	1	SC5HT32003
SC-5 HT	0,32	0,10	10	1	SC5HT32011
SC-5 HT	0,32	0,25	30	1	SC5HT32017
SC-5 HT	0,53	0,10	30	1	SC5HT32022

## SC-54 HT COLUMNS

Composition: **5% Phenyl, 1% Vinyl, 94% Methyl Polysiloxane** for High Temperature.  
Low polarity.  
Stable up to 400°C.

PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-54 HT	0,10	0,10	5	1	SC54HT3301
SC-54 HT	0,10	0,10	10	1	SC54HT3302
SC-54 HT	0,25	0,10	15	1	SC54HT3305
SC-54 HT	0,32	0,15	15	1	SC54HT3313
SC-54 HT	0,53	0,10	15	1	SC54HT3319
SC-54 HT	0,53	0,15	30	1	SC54HT3324

## SC-WAX HT COLUMNS

Composition: **Polyethylenglycol (PEG)** for High Temperature.  
**high temperature.**  
High polarity.  
Stable up to 400°C.



PHASE	INNER Ø (mm)	THICKNESS FILM (µm)	LENGTH (m)	PACK (U.)	ART. NO.
SC-WAX HT	0,10	0,10	5	1	SCWXHT4301
SC-WAX HT	0,10	0,10	10	1	SCWXHT4302
SC-WAX HT	0,25	0,10	15	1	SCWXHT4305
SC-WAX HT	0,32	0,15	15	1	SCWXHT4313
SC-WAX HT	0,53	0,10	15	1	SCWXHT4319
SC-WAX HT	0,53	0,15	30	1	SCWXHT4324

# HPLC CHROMATOGRAPHY

## HPLC AND LC-MS COLUMNS

### HPLC and LC-MS Scharlau columns. KromaPhase

The Scharlau chromatography portfolio was born more than 40 year ago with Scharlau KromaPhase HPLC Columns. Since then, customers in different sectors, Pharmaceutical Labs., Research Centres, Universities, Independent labs, etc., have been using SCHARLAU columns for their reliability and reproducibility.

Each column is tested after manufacture for efficiency, capacity, selectivity and peak symmetry. The results of this test are shown in the Test Chromatogram, which is included with each column.

Scharlau KromaPhase HPLC columns offer a wide range of possibilities. More than 500 columns and pre-columns are available, offering an extensive experience in semi-preparative and preparative columns.

The columns are packed from 2 mm to 50 mm I.D., 2 mm columns for LC-MS, and also in the standard columns of 4 and 4.6 mm I.D.

KromaPhase columns are based on ultrapure high-quality spherical silica of that provides high reproducibility and chemical stability using monofunctional silanes and total end-capping. Different stationary phases are available.

KromaPhase solves the vast majority of analytical problems.

## SCHARLAU HPLC COLUMNS KROMAPHASE

### KromaPhase specifications C18:

USP Code: L1  
Particle sizes: 3.5 / 5 / 10  $\mu\text{m}$   
Pore size: 100  $\text{\AA}$   
Surface Area: 300  $\text{m}^2/\text{g}$   
pH range: 1 to 10  
Carbon Load: 20%  
Pore volume: 0.8  $\text{ml/g}$   
Particle size distribution (D10/D90): <1.6

### KromaPhase specifications C8:

USP Code: L7  
Particle sizes: 3.5 / 5 / 10  $\mu\text{m}$   
Pore size: 100  $\text{\AA}$   
Surface Area: 300  $\text{m}^2/\text{g}$   
pH range: 2 to 9  
Carbon Load: 12%  
Pore volume: 0.8  $\text{ml/g}$   
Particle size distribution (D10/D90): <1.6

### KromaPhase specifications SIL:

USP Code: L3  
Particle sizes: 3.5 / 5 / 10  $\mu\text{m}$   
Pore size: 100  $\text{\AA}$   
Surface Area: 300  $\text{m}^2/\text{g}$   
pH range: 1 to 8  
Pore volume: 0.8  $\text{ml/g}$   
Particle size distribution (D10/D90): <1.6

### KromaPhase specifications $\text{NH}_2$ :

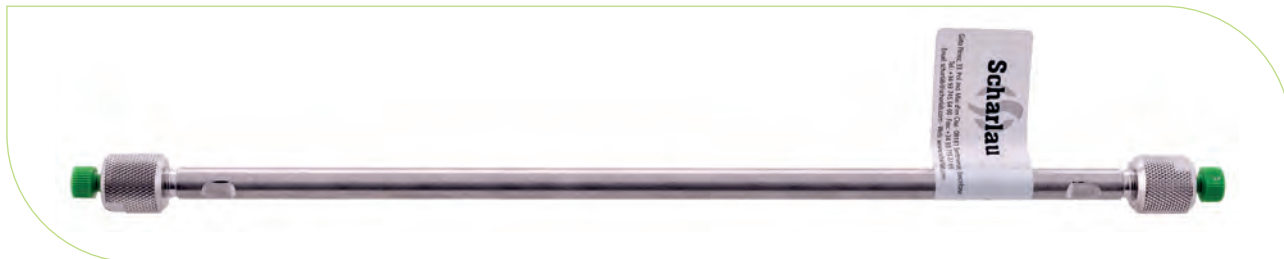
USP Code: L8  
Particle sizes: 5 / 10  $\mu\text{m}$   
Pore size: 100  $\text{\AA}$   
Surface Area: 300  $\text{m}^2/\text{g}$   
pH range: 2 to 8  
Carbon Load: 4.5%  
Pore volume: 0.8  $\text{ml/g}$   
Particle size distribution (D10/D90): <1.6

### KromaPhase specifications C4:

USP Code: L26  
Particle sizes: 5 / 10  $\mu\text{m}$   
Pore size: 100  $\text{\AA}$   
Surface Area: 300  $\text{m}^2/\text{g}$   
pH range: 2 to 8  
Carbon Load: 8%  
Pore volume: 0.8  $\text{ml/g}$   
Particle size distribution (D10/D90): <1.6

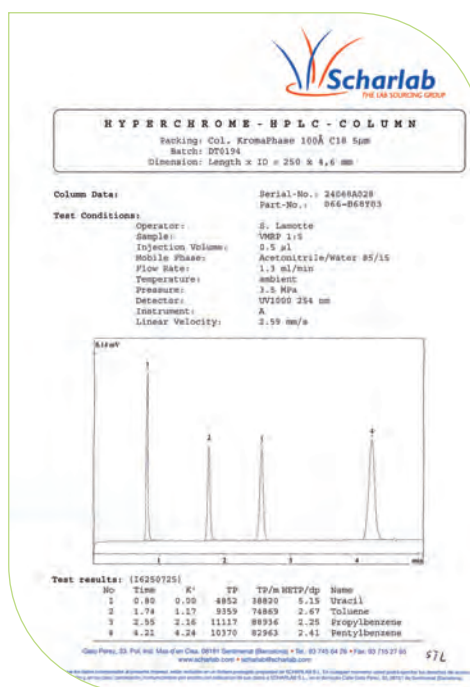


**KROMAPHASE COLUMNS 2 mm I.D.**



PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C4	5	100	50	2	1	070B35Y817
C4	5	100	100	2	1	070B36Y817
C4	5	100	125	2	1	070B39Y817
C4	5	100	150	2	1	070B40Y817
C4	5	100	250	2	1	070B43Y817
C8	3,5	100	50	2	1	070B35Y809
C8	3,5	100	100	2	1	070B36Y809
C8	3,5	100	125	2	1	070B39Y809
C8	3,5	100	150	2	1	070B40Y809
C8	3,5	100	250	2	1	070B43Y809
C8	5	100	50	2	1	070B35Y802
C8	5	100	100	2	1	070B36Y802
C8	5	100	125	2	1	070B39Y802
C8	5	100	150	2	1	070B40Y802
C8	5	100	250	2	1	070B43Y802
C18	3	100	100	2	1	070B36Y812
C18	3,5	100	50	2	1	070B35Y811
C18	3,5	100	100	2	1	070B36Y811
C18	3,5	100	125	2	1	070B39Y811
C18	3,5	100	150	2	1	070B40Y811
C18	3,5	100	250	2	1	070B43Y811
C18	5	100	50	2	1	070B35Y803
C18	5	100	100	2	1	070B36Y803
C18	5	100	125	2	1	070B39Y803
C18	5	100	150	2	1	070B40Y803
C18	5	100	250	2	1	070B43Y803
NH2	5	100	50	2	1	070B35Y807
NH2	5	100	100	2	1	070B36Y807
NH2	5	100	125	2	1	070B39Y807
NH2	5	100	150	2	1	070B40Y807
NH2	5	100	250	2	1	070B43Y807

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
SIL	3,5	100	50	2	1	070B35Y814
SIL	3,5	100	100	2	1	070B36Y814
SIL	3,5	100	125	2	1	070B39Y814
SIL	3,5	100	150	2	1	070B40Y814
SIL	3,5	100	250	2	1	070B43Y814
SIL	5	100	50	2	1	070B35Y801
SIL	5	100	100	2	1	070B36Y801
SIL	5	100	125	2	1	070B39Y801
SIL	5	100	150	2	1	070B40Y801
SIL	5	100	250	2	1	070B43Y801



Control chromatogram

### KROMAPHASE COLUMNS 3 mm I.D.

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C4	5	100	50	3	1	070B58Y817
C4	5	100	100	3	1	070B52Y817
C4	5	100	125	3	1	070B56Y817
C4	5	100	150	3	1	070B53Y817
C4	5	100	250	3	1	070B54Y817
C8	3,5	100	50	3	1	070B58Y809
C8	3,5	100	100	3	1	070B52Y809
C8	3,5	100	125	3	1	070B56Y809
C8	3,5	100	150	3	1	070B53Y809
C8	3,5	100	250	3	1	070B54Y809
C8	5	100	50	3	1	070B58Y802
C8	5	100	100	3	1	070B52Y802
C8	5	100	125	3	1	070B56Y802
C8	5	100	150	3	1	070B53Y802
C8	5	100	250	3	1	070B54Y802
C18	3,5	100	50	3	1	070B58Y811
C18	3,5	100	100	3	1	070B52Y811
C18	3,5	100	125	3	1	070B56Y811
C18	3,5	100	150	3	1	070B53Y811
C18	3,5	100	250	3	1	070B54Y811

### KROMAPHASE COLUMNS 4 mm I.D.

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C4	5	100	50	4	1	070-B3Y817
C4	5	100	100	4	1	070-B1Y817
C4	5	100	125	4	1	070-B7Y817
C4	5	100	150	4	1	070-B2Y817
C4	5	100	250	4	1	070-B6Y817
C8	3,5	100	50	4	1	070-B3Y809
C8	3,5	100	100	4	1	070-B1Y809
C8	3,5	100	125	4	1	070-B7Y809
C8	3,5	100	150	4	1	070-B2Y809
C8	3,5	100	250	4	1	070-B6Y809
C8	5	100	50	4	1	070-B3Y802
C8	5	100	100	4	1	070-B1Y802
C8	5	100	125	4	1	070-B7Y802
C8	5	100	150	4	1	070-B2Y802
C8	5	100	250	4	1	070-B6Y802
C8	10	100	50	4	1	070-B3Y804
C8	10	100	100	4	1	070-B1Y804
C8	10	100	125	4	1	070-B7Y804
C8	10	100	150	4	1	070-B2Y804
C8	10	100	250	4	1	070-B6Y804
C18	3,5	100	50	4	1	070-B3Y811
C18	3,5	100	100	4	1	070-B1Y811
C18	3,5	100	125	4	1	070-B7Y811
C18	3,5	100	150	4	1	070-B2Y811
C18	3,5	100	250	4	1	070-B6Y811
C18	5	100	30	4	1	070-B9Y803
C18	5	100	50	4	1	070-B3Y803
C18	5	100	100	4	1	070-B1Y803
C18	5	100	125	4	1	070-B7Y803
C18	5	100	150	4	1	070-B2Y803

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C18	5	100	50	3	1	070B58Y803
C18	5	100	100	3	1	070B52Y803
C18	5	100	125	3	1	070B56Y803
C18	5	100	150	3	1	070B53Y803
C18	5	100	250	3	1	070B54Y803
NH2	5	100	50	3	1	070B58Y807
NH2	5	100	100	3	1	070B52Y807
NH2	5	100	125	3	1	070B56Y807
NH2	5	100	150	3	1	070B53Y807
NH2	5	100	250	3	1	070B54Y807
SIL	3,5	100	50	3	1	070B58Y814
SIL	3,5	100	100	3	1	070B52Y814
SIL	3,5	100	125	3	1	070B56Y814
SIL	3,5	100	150	3	1	070B53Y814
SIL	3,5	100	250	3	1	070B54Y814
SIL	5	100	50	3	1	070B58Y801
SIL	5	100	100	3	1	070B52Y801
SIL	5	100	125	3	1	070B56Y801
SIL	5	100	150	3	1	070B53Y801
SIL	5	100	250	3	1	070B54Y801

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C18	5	100	200	4	1	070-B5Y803
C18	5	100	250	4	1	070-B6Y803
C18	5	100	300	4	1	070-B4Y803
C18	10	100	50	4	1	070-B3Y805
C18	10	100	100	4	1	070-B1Y805
C18	10	100	125	4	1	070-B7Y805
C18	10	100	150	4	1	070-B2Y805
C18	10	100	250	4	1	070-B6Y805
C18	10	100	300	4	1	070-B4Y805
NH2	5	100	50	4	1	070-B3Y807
NH2	5	100	100	4	1	070-B1Y807
NH2	5	100	125	4	1	070-B7Y807
NH2	5	100	150	4	1	070-B2Y807
NH2	5	100	250	4	1	070-B6Y807
SIL	3,5	100	50	4	1	070-B3Y814
SIL	3,5	100	100	4	1	070-B1Y814
SIL	3,5	100	125	4	1	070-B7Y814
SIL	3,5	100	150	4	1	070-B2Y814
SIL	3,5	100	250	4	1	070-B6Y814
SIL	5	100	50	4	1	070-B3Y801
SIL	5	100	100	4	1	070-B1Y801
SIL	5	100	125	4	1	070-B7Y801
SIL	5	100	150	4	1	070-B2Y801
SIL	5	100	250	4	1	070-B6Y801
SIL	10	100	50	4	1	070-B3Y810
SIL	10	100	100	4	1	070-B1Y810
SIL	10	100	125	4	1	070-B7Y810
SIL	10	100	150	4	1	070-B2Y810
SIL	10	100	250	4	1	070-B6Y810

### KROMAPHASE COLUMNS 4,6 mm I.D.

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C4	5	100	50	4,6	1	066-B3Y817
C4	5	100	100	4,6	1	066-B1Y817
C4	5	100	125	4,6	1	066-B7Y817
C4	5	100	150	4,6	1	066-B2Y817
C4	5	100	250	4,6	1	066-B6Y817
C8	3,5	100	50	4,6	1	066-B3Y809
C8	3,5	100	100	4,6	1	066-B1Y809
C8	3,5	100	125	4,6	1	066-B7Y809
C8	3,5	100	150	4,6	1	066-B2Y809
C8	3,5	100	250	4,6	1	066-B6Y809
C8	5	100	50	4,6	1	066-B3Y802
C8	5	100	75	4,6	1	066-BXY802
C8	5	100	100	4,6	1	066-B1Y802
C8	5	100	125	4,6	1	066-B7Y802
C8	5	100	150	4,6	1	066-B2Y802
C8	5	100	250	4,6	1	066-B6Y802
C8	10	100	50	4,6	1	066-B3Y804
C8	10	100	100	4,6	1	066-B1Y804
C8	10	100	125	4,6	1	066-B7Y804
C8	10	100	150	4,6	1	066-B2Y804
C8	10	100	250	4,6	1	066-B6Y804
C18	3	100	150	4,6	1	066-B2Y812
C18	3	100	250	4,6	1	066-B6Y812
C18	3,5	100	50	4,6	1	066-B3Y811
C18	3,5	100	75	4,6	1	066-BXY811
C18	3,5	100	100	4,6	1	066-B1Y811
C18	3,5	100	125	4,6	1	066-B7Y811
C18	3,5	100	150	4,6	1	066-B2Y811
C18	3,5	100	250	4,6	1	066-B6Y811
C18	5	100	50	4,6	1	066-B3Y803

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C18	5	100	75	4,6	1	066-BXY803
C18	5	100	100	4,6	1	066-B1Y803
C18	5	100	125	4,6	1	066-B7Y803
C18	5	100	150	4,6	1	066-B2Y803
C18	5	100	250	4,6	1	066-B6Y803
C18	10	100	50	4,6	1	066-B3Y805
C18	10	100	100	4,6	1	066-B1Y805
C18	10	100	125	4,6	1	066-B7Y805
C18	10	100	150	4,6	1	066-B2Y805
C18	10	100	250	4,6	1	066-B6Y805
NH2	5	100	50	4,6	1	066-B3Y807
NH2	5	100	100	4,6	1	066-B1Y807
NH2	5	100	125	4,6	1	066-B7Y807
NH2	5	100	150	4,6	1	066-B2Y807
NH2	5	100	250	4,6	1	066-B6Y807
SIL	3,5	100	50	4,6	1	066-B3Y814
SIL	3,5	100	100	4,6	1	066-B1Y814
SIL	3,5	100	125	4,6	1	066-B7Y814
SIL	3,5	100	150	4,6	1	066-B2Y814
SIL	3,5	100	250	4,6	1	066-B6Y814
SIL	5	100	50	4,6	1	066-B3Y801
SIL	5	100	100	4,6	1	066-B1Y801
SIL	5	100	125	4,6	1	066-B7Y801
SIL	5	100	150	4,6	1	066-B2Y801
SIL	5	100	250	4,6	1	066-B6Y801
SIL	10	100	50	4,6	1	066-B3Y810
SIL	10	100	100	4,6	1	066-B1Y810
SIL	10	100	125	4,6	1	066-B7Y810
SIL	10	100	150	4,6	1	066-B2Y810
SIL	10	100	250	4,6	1	066-B6Y810

### KROMAPHASE COLUMNS 8 mm I.D.

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C4	5	100	100	8	1	070B32Y817
C4	5	100	150	8	1	070B22Y817
C4	5	100	250	8	1	070B23Y817
C8	5	100	100	8	1	070B32Y802
C8	5	100	150	8	1	070B22Y802
C8	5	100	250	8	1	070B23Y802
C8	10	100	100	8	1	070B32Y804
C8	10	100	150	8	1	070B22Y804
C8	10	100	250	8	1	070B23Y804
C18	5	100	100	8	1	070B32Y803
C18	5	100	150	8	1	070B22Y803
C18	5	100	250	8	1	070B23Y803

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C18	10	100	100	8	1	070B32Y805
C18	10	100	150	8	1	070B22Y805
C18	10	100	250	8	1	070B23Y805
NH2	5	100	100	8	1	070B32Y807
NH2	5	100	150	8	1	070B22Y807
NH2	5	100	250	8	1	070B23Y807
SIL	5	100	100	8	1	070B32Y801
SIL	5	100	150	8	1	070B22Y801
SIL	5	100	250	8	1	070B23Y801
SIL	10	100	100	8	1	070B32Y810
SIL	10	100	150	8	1	070B22Y810
SIL	10	100	250	8	1	070B23Y810

### KROMAPHASE COLUMNS 10 mm I.D.

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (mm)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C18	5	100	250	10	1	070B73Y803

### KROMAPHASE COLUMNS 16 mm I.D.

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C4	5	100	150	16	1	070B44Y817
C4	5	100	250	16	1	070B27Y817
C8	5	100	150	16	1	070B44Y802
C8	5	100	250	16	1	070B27Y802
C8	10	100	150	16	1	070B44Y804
C8	10	100	250	16	1	070B27Y804
C18	5	100	150	16	1	070B44Y803
C18	5	100	250	16	1	070B27Y803

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C18	10	100	150	16	1	070B44Y805
C18	10	100	250	16	1	070B27Y805
NH2	5	100	150	16	1	070B44Y807
NH2	5	100	250	16	1	070B27Y807
SIL	5	100	150	16	1	070B44Y801
SIL	5	100	250	16	1	070B27Y801
SIL	10	100	150	16	1	070B44Y810
SIL	10	100	250	16	1	070B27Y810

### KROMAPHASE COLUMNS 20 mm I.D.

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C4	5	100	150	20	1	070B11Y817
C4	5	100	250	20	1	070B10Y817
C8	5	100	150	20	1	070B11Y802
C8	5	100	250	20	1	070B10Y802
C8	10	100	150	20	1	070B11Y804
C8	10	100	250	20	1	070B10Y804
C18	5	100	150	20	1	070B11Y803
C18	5	100	250	20	1	070B10Y803

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	INNER Ø (mm)	PACK (U.)	ART. NO.
C18	10	100	150	20	1	070B11Y805
C18	10	100	250	20	1	070B10Y805
NH2	5	100	150	20	1	070B11Y807
NH2	5	100	250	20	1	070B10Y807
SIL	5	100	150	20	1	070B11Y801
SIL	5	100	250	20	1	070B10Y801
SIL	10	100	150	20	1	070B11Y810
SIL	10	100	250	20	1	070B10Y810

## SCHARLAU PRECOLUMNS FOR HPLC KROMAPHASE

### KROMAPHASE GUARD COLUMNS, COLUMN TYPE. NO HOLDER IS REQUIRED.



PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	Ø INT. (mm)	PACK (U.)	ART. NO.
C4	5	100	30	2	1	070B1PY817
C4	5	100	30	3	1	070B4PY817
C4	5	100	30	4	1	070B9PY817
C4	5	100	30	8	1	070B2PY817
C4	5	100	30	16	1	070B3PY817
C4	5	100	30	20	1	070B5PY817
C8	3,5	100	30	2	1	070B1PY809
C8	3,5	100	30	3	1	070B4PY809
C8	3,5	100	30	4	1	070B9PY809
C8	5	100	30	2	1	070B1PY802
C8	5	100	30	3	1	070B4PY802
C8	5	100	30	4	1	070B9PY802
C8	5	100	30	8	1	070B2PY802
C8	5	100	30	16	1	070B3PY802
C8	5	100	30	20	1	070B5PY802
C8	10	100	30	4	1	070B9PY804
C8	10	100	30	8	1	070B2PY804
C8	10	100	30	16	1	070B3PY804
C8	10	100	30	20	1	070B5PY804
C18	3	100	30	2	1	070B1PY812
C18	3	100	30	4	1	070B9PY812
C18	3,5	100	30	2	1	070B1PY811
C18	3,5	100	30	3	1	070B4PY811
C18	3,5	100	30	4	1	070B9PY811
C18	5	100	30	2	1	070B1PY803
C18	5	100	30	3	1	070B4PY803
C18	5	100	30	4	1	070B9PY803

PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	Ø INT. (mm)	PACK (U.)	ART. NO.
C18	5	100	30	8	1	070B2PY803
C18	5	100	30	16	1	070B3PY803
C18	5	100	30	20	1	070B5PY803
C18	10	100	30	4	1	070B9PY805
C18	10	100	30	8	1	070B2PY805
C18	10	100	30	16	1	070B3PY805
C18	10	100	30	20	1	070B5PY805
NH2	5	100	30	2	1	070B1PY807
NH2	5	100	30	3	1	070B4PY807
NH2	5	100	30	4	1	070B9PY807
NH2	5	100	30	8	1	070B2PY807
NH2	5	100	30	16	1	070B3PY807
NH2	5	100	30	20	1	070B5PY807
SIL	3,5	100	30	2	1	070B1PY814
SIL	3,5	100	30	3	1	070B4PY814
SIL	3,5	100	30	4	1	070B9PY814
SIL	5	100	30	2	1	070B1PY801
SIL	5	100	30	3	1	070B4PY801
SIL	5	100	30	4	1	070B9PY801
SIL	5	100	30	8	1	070B2PY801
SIL	5	100	30	16	1	070B3PY801
SIL	5	100	30	20	1	070B5PY801
SIL	10	100	30	4	1	070B9PY810
SIL	10	100	30	8	1	070B2PY810
SIL	10	100	30	16	1	070B3PY810
SIL	10	100	30	20	1	070B5PY810

**HOLDER FOR GUARD COLUMNS, CARTRIDGE TYPE.**



DESCRIPTION	PACK (U.)	ART. NO.
Holder for guard columns, cartridge type	1	070HOLDER2

**KROMAPHASE GUARD COLUMNS, CARTRIDGE TYPE. HOLDER IS REQUIRED, ART. NO. 070HOLDER2**



PHASE	PARTICLE SIZE (µm)	PORUS SIZE (Å)	LENGTH (mm)	Ø INT. (mm)	PACK (U.)	ART. NO.
C4	5	100	10	4	5	070-BGY817
C8	3,5	100	10	4	5	070-BGY809
C8	5	100	10	4	5	070-BGY802
C8	10	100	10	4	5	070-BGY804
C18	3,5	100	10	4	5	070-BGY811
C18	5	100	10	4	5	070-BGY803
C18	10	100	10	4	5	070-BGY805
NH2	5	100	10	4	5	070-BGY807
SIL	3,5	100	10	4	5	070-BGY814
SIL	5	100	10	4	5	070-BGY801
SIL	10	100	10	4	5	070-BGY810



**PROBLEMS WITH THE EXTRACTION METHOD?  
IMPLEMENTING A NEW EXTRACTION PROCEDURE?**

CONTACT SCHARLAB'S CHROMATOGRAPHY HELPDESK: [helpdesk@scharlab.com](mailto:helpdesk@scharlab.com)

- WHAT IS THE MATRIX?
- WHAT ARE THE ANALYTES OF INTEREST?
- IS SPE BEING USED FOR EXTRACTION?

# SPE (SOLID PHASE EXTRACTION)

ExtraBond® Non-Silica Cartridges PAGE 606

ExtraBond® Silica Cartridges PAGE 606

ExtraBond® Polymeric Cartridges PAGE 609

Bulk adsorbents ExtraBond® PAGE 610

Accessories for SPE PAGE 611

ExtraVac® Scharlau Vacuum manifolds PAGE 611

Extrabond® QuEChERS PAGE 612

Extrabond® LLE PAGE 613

## SPE (SOLID PHASE EXTRACTION): EXTRABOND®

### SPE ExtraBond®

Solid Phase Extraction (SPE), has become the ideal method for sample preparation prior to analyses using HPLC, GC, TLC, NMR and other analytical techniques. The popularity of this technique has grown dramatically over the past two decades due to advances in analytical instrumentation or robots (automated instrumentation). This technique is used in various analytical fields.

The main objectives in using SPE are "clean-up", concentration or change of solvent. It offers greater selectivity and clean up, less solvent consumption, time saving, and the possibility of automation. SPE is based on the same principle of selective retention as liquid chromatography. The extraction is carried out in extraction columns (straight walled syringe barrel tubes) containing modified or plain silica gel or other packing materials. There are a variety of columns that differ in the type of stationary phase (packing material), the capacity and the amount of stationary phase they contain.

Scharlab introduced the new line in SPE ExtraBond® more than 20 years ago.

**Scharlau ExtraBond®** comprises a **wide range** of packing materials, silica gel as well as polymers of the **highest quality and purity** that provide **excellent and reproducible separation as well as a high recovery rate. Each box of ExtraBond® comes with a Certificate of Analysis.**

**Scharlau ExtraBond®** is available in **all formats: closed minicartridges, opened cartridges for SPE (SPE columns), cartridges for flash chromatography, 96 well plates, etc.**

The choice of a cartridge is determined by the type and volume of the matrix and the type and concentration of the analytes. For an extraction to take place, 3 types of interactions must be taken into account:

- **Analyte/packing:** responsible for the retention of the analyte in the stationary phase.
- **Analyte/matrix:** also affect the retention of the analyte in the stationary phase.
- **Matrix/packing:** competing with those of the analyte/packing.

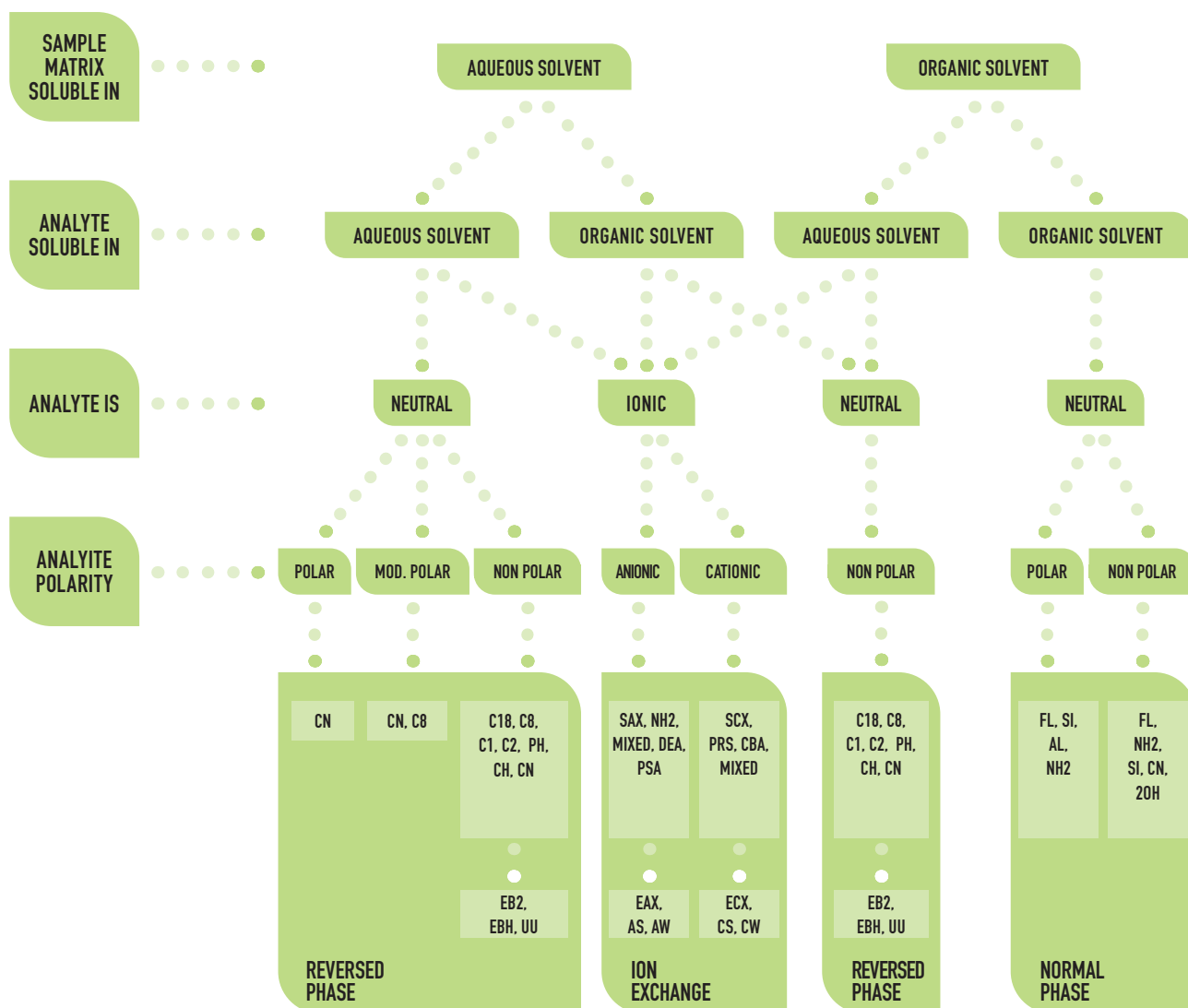
The stationary phase chosen must have a high affinity for both the analytes to be extracted as well as the interferences to be eliminated. The choice of this phase will define a specific selectivity for the compounds of interest and a loading capacity sufficient for complete adsorption.

Two approaches are possible: either the analyte of interest can be retained in order to separate it from interferences which may pass through, or the interferences may be retained, and the analytes of interest are allowed to pass through.

There are two major groups of packings: stationary phases **based on silica** gel and stationary phases **based on polymers**. Polymeric phases offer the advantage of being very stable chemically and pH resistant in ranges from 1 to 14. On the other hand, they are generally less selective than those with a silica base. Their loading capacity is higher and elution volume lower, so the process can be faster, minimising the evaporation stage.

Silica based stationary phases have a lower chemical stability (pH 2 to pH 7,5) but are much more selective than polymer phases, which is why they remain widely in use. The silica-based phases include 4 major groups according to the mechanism of interaction and selectivity: **reversed-phase, normal phase, ion- exchange and mixed mode.**





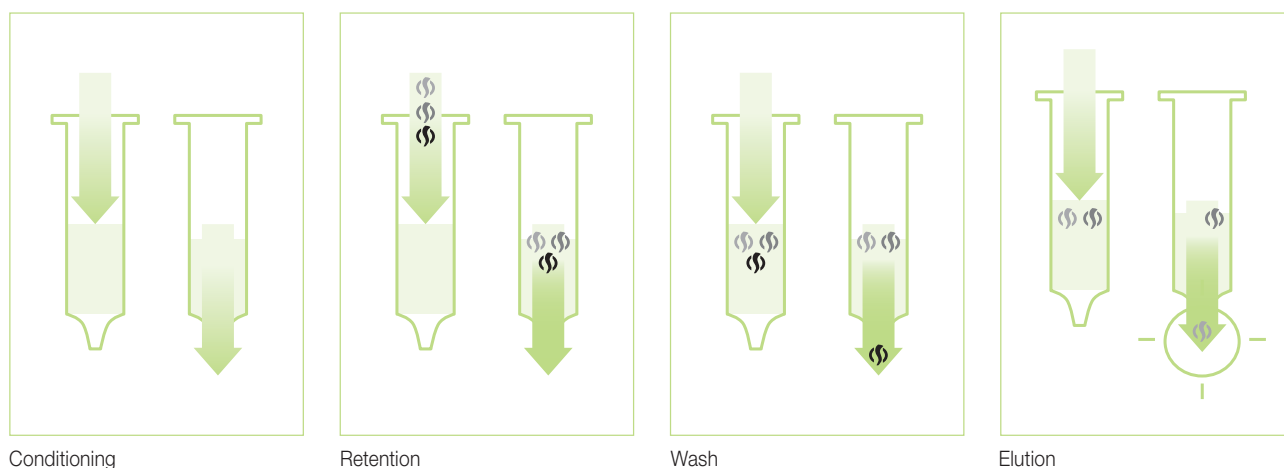
**Quantity of phase and elution volume**

Once the phase is chosen, it is necessary to determine the quantity required to ensure complete extraction.

**As a general rule for silica-based cartridges:**

- The **capacity** of a cartridge corresponds to approx. 5% of the mass of the phase contained in the cartridge.
- The **minimum volume of elution** is considered to be twice the volume of the bed. The bed volume is the amount of solvent required to fill all the internal pores and interstitial spaces of the phase particles. Consider that the optimum volume of elution is at least 4 or 5 times the bed volume. The bed volume for a silica-based phase 50 µm and 60 Å is about 120 µl /100 mg of adsorbent.

**Development of the extraction method using ExtraBond®**



### Conditioning

Sorbent ligands must be “activated”, and the bed then equilibrated before applying the sample to obtain a reproducible interaction. This is carried out by passing a volume of suitable solvent through the stationary phase, followed by a volume of liquid similar to the sample matrix. 4 bed volumes are commonly recommended.

### Retention

After applying the sample, the analyte (☞) and possibly other matrix components (☞ and ☞), are retained on the phase due to one or several chemical interactions. Other matrix components can pass through the stage without being retained.

### Wash

This stage should result in the elution of all the unwanted components of the matrix (☞) that were retained in the phase at the retention stage. 6-8 bed volumes are commonly recommended.

### Elution

An elution solvent that only “breaks” the bonds between the analyte (☞) and the phase should be chosen which results solely in the selective elution of the analyte. 4-5 bed volumes are commonly recommended.

The SPE methodology varies with the type of phase used (normal, reversed or ion exchange). The following are proposed “simplified generic methods” for each type of phase, although the protocols may differ slightly from one sample to another and should be optimised for each application.

	NORMAL PHASE	REVERSED PHASE	ION EXCHANGE ANIONIC	CATIONIC
<b>TYPICAL PHASES</b>	Florisil, Silica, Amine, Cyano, Diol	C18, C8, C2, C1, Cyclohexyl, Cyano, Phenyl, EB2, EBH	NH2, SAX, EAX	CBA, SCX, ECX
<b>PHASE POLARITY</b>	High	Low	High	
<b>MATRIX</b>	Organic solvents	Aqueous	Organic solvents or aqueous (buffer)	
<b>ANALYTE</b>	Polar / without load	Non-polar / without load	Acid	Base
<b>RETAINED COMPOUNDS</b>	Polar	Non-polar	Ionized	
<b>STAGE 1: CONDITIONING</b>	1) IPA 2) hexane	1) methanol 2) water	1) methanol: water (50:50) 2) buffer* (0.1M)	
<b>STAGE 2: RETENTION</b>	Load sample 1-5 ml/min	Load sample 1-5 ml/min	Load sample 1 ml/min	
<b>STAGE 3: WASH</b>	Hexane or hexane: IPA (98:2)	Water or water: methanol (95:5)	Methanol: buffer* (0.1M) (10:90)	
<b>STAGE 4: ELUTION</b>	IPA, ethyl acetate, acetone or hexane: IPA (50:50)	Methanol o acetonitrile**	Buffer*** (0.5M-1.0M) or modify pH until the analyte is no longer retained	

\* Low ionic strength buffer

\*\* Could require addition of acid or base

\*\*\* High ionic strength buffer

**Advantages you can benefit from by using ExtraBond®:**

- ✓ Obtain perfect traceability
- ✓ Avoid confusions
- ✓ Keep cartridges fresh for a longer period of time

**Features of ExtraBond®:**

- Lot number printed on each cartridge = Total traceability
- Phase type printed on each cartridge = Decrease of mistakes
- Vacuum packed = Protection against moisture and possible phase detachments



## SPE: EXTRABOND® NON-SILICA CARTRIDGES

### EXTRABOND® NON-SILICA CARTRIDGES



Solid Phase Extraction (SPE) has become the ideal method for sample preparation prior to analyses using HPLC, GC, TLC, RIA, NMR and other analytical techniques. **Scharlau ExtraBond®** comprises a **wide range** of packaging materials, silica gel as well as polymers of the **highest quality and purity** that provide **excellent and reproducible separation** as well as a **high recovery rate**. Each box of ExtraBond® comes with a **certificate of analysis**. **What makes ExtraBond® unique?**

Each ExtraBond® cartridge has the phase type and batch number printed for greater traceability. It also helps to avoid confusion when handling cartridges of different phases.

The ExtraBond® cartridges are supplied in practical vacuum bags to ensure maximum protection against moisture and thus better conversation. Moreover, the vacuum packing acts as a protector against possible phase detachments. All these features allow maximum preservation and traceability ExtraBond® is available in a wide range of formats: open cartridges ranging from 1 to 60 ml, cartridges with large reservoir capacity (LRC) of 10 or 15 ml, closed cartridges, glass cartridges, 96 and 48 well extraction plates and QuEChERS kits.

**For any other cartridge, another phase or format, or glass cartridges 96 or 48 positions, you can not find in this catalogue, please contact [helpdesk@scharlab.com](mailto:helpdesk@scharlab.com).**

#### ALA. ACID ALUMINIUM OXIDE. SCHARLAU

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
ALA	500	3	80	100-200	50	ALA500-03L
ALA	500	6	80	100-200	50	ALA500-06T
ALA	1000	6	80	100-200	50	ALA01G-06T

## SPE: EXTRABOND® SILICA CARTRIDGES

### EXTRABOND® SILICA CARTRIDGES



Solid Phase Extraction (SPE) has become the ideal method for sample preparation prior to analyses using HPLC, GC, TLC, RIA, NMR and other analytical techniques. **Scharlau ExtraBond®** comprises a **wide range** of packaging materials, silica gel as well as polymers of the **highest quality and purity** that provide **excellent and reproducible separation** as well as a **high recovery rate**. Each box of ExtraBond® comes with a **certificate of analysis**. **What makes ExtraBond® unique?**

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**For any other cartridge, another phase or format, or glass cartridges 96 or 48 positions, you can not find in this catalogue, please contact [helpdesk@scharlab.com](mailto:helpdesk@scharlab.com).**

### C18. SILICA-BASED OCTADECYL. NON-POLAR PHASE



Certificate of Analysis



Lot number on each cartridge



Closed cartridges

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
C18	50	1	60	50	100	C18050-01C
C18	100	1	60	50	100	C18100-01C
C18	200	3	60	50	50	C18200-03L
C18	500	3	60	50	50	C18500-03L
C18	500	6	60	50	30	C18500-06T
C18	500	10	60	50	50	C18500-10L
C18	1000	6	60	50	30	C1801G-06T
C18	2000	12	60	50	20	C1802G-12A
C18	5000	20	60	50	20	C1805G-20A
C18	10000	60	60	50	16	C1810G-60B
C18	300	-	125	50	50	C18300-00L
C18	500	-	125	50	50	C18500-00L
C18	1000	-	125	50	50	C181000-0L

### C8. SILICA-BASED OCTYL. NON-POLAR PHASE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
C8	200	15	60	50	50	C8E200-15L
C8	500	3	60	50	50	C8E500-03L

### CN. CYANOPROPYL ON SILICA BASE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
CN	100	1	60	50	100	CN0100-01C
CN	200	3	60	50	50	CN0200-03L
CN	500	3	60	50	50	CN0500-03L
CN	500	6	60	50	30	CN0500-06T
CN	1000	6	60	50	30	CN001G-06T

### NH2. SILICA-BASED AMINOPROPYL. POLAR PHASE / ANION EXCHANGE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
NH2	100	1	60	50	100	NH2100-01C
NH2	500	3	60	50	50	NH2500-03L
NH2	500	6	60	50	30	NH2500-06T
NH2	500	15	60	50	50	NH2500-15L
NH2	1000	6	60	50	30	NH201G-06T

### 20H. SILICA-BASED DIOL. POLAR PHASE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
20H	500	3	60	60	50	20H500-03L
20H	1000	6	60	60	30	20H01G-06T

### SIL. SILICA. POLAR PHASE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
SIL	100	1	60	50	100	SIL100-01C
SIL	500	3	60	50	50	SIL500-03L
SIL	1000	6	60	50	30	SIL01G-06T
SIL	2000	12	60	50	20	SIL02G-12A
SIL	5000	20	60	50	20	SIL05G-20A

### FL. FLORISIL. POLAR PHASE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
FL	500	3	-	200	50	FLO500-03L
FL	1000	6	-	200	30	FLO01G-06T
FL	2000	12	-	200	20	FLO02G-12A
FL	5000	20	-	200	20	FLO05G-20A

### PRS. SILICA-BASED PROPYLSULPHONIC ACID. CATION EXCHANGE PHASE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
PRS	500	3	60	50	50	PRS500-03L
PRS	500	10	60	50	50	PRS500-10L

### SCX. SILICA-BASED BENZENESULFONIC ACID. CATION EXCHANGE PHASE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
SCX	500	3	60	60	50	SCX500-03L
SCX	1000	6	60	60	30	SCX01G-06T
SCX	5000	20	60	60	20	SCX05G-20A
SCX	2000	12	60	60	20	SCX02G-12A

### SAX. SILICA-BASED TRIMETHYL AMINOPROPYL. ANION EXCHANGE PHASE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
SAX	500	3	60	60	50	SAX500-03L
SAX	500	6	60	60	30	SAX500-06T
SAX	1000	6	60	60	30	SAX01G-06T

### PCB. SILICA AND SILICA-BASED BENZENESULFONIC ACID. POLAR PHASE / CATION EXCHANGE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
PCB	1000	6	60	-	50	PCB01G-06L
PCB	1000	3	60	-	50	PCB01G-03L

**DRUG. MIXED PHASE NON-POLAR / SILICA-BASED CATION EXCHANGE. DESIGNED FOR THE EXTRACTION OF DRUGS OF ABUSE WITH GREATER REPRODUCIBILITY AND EFFICIENCY. ITS ADVANTAGES ARE SPECTACULAR WHEN USED WITH SENSITIVE DETECTORS SUCH AS MS**

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
Drug	200	3	60	50	50	DRG200-03L
Drug	300	10	60	50	50	DRG300-10L
Drug	500	6	60	50	30	DRG500-06T

### SA82. OCTYL MIXED PHASE AND SILICA-BASED TMA ACETATE. NON-POLAR PHASE / ANION EXCHANGE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
SA82	200	10	60	50	50	SA2200-10L

### PSA. (N-AMINOETHYL) AMINOPROPYL. ANION EXCHANGE

PHASE	SORBENT MASS (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
PSA	100	1	60	40-60	100	PSA100-01C
PSA	500	3	60	40-60	50	PSA500-03L
PSA	500	6	60	40-60	30	PSA500-06T
PSA	1000	6	60	40-60	30	PSA01G-06T

## SPE: EXTRABOND® POLYMERIC CARTRIDGES

### EXTRABOND® POLYMERIC EB CARTRIDGES



Cartridges from the latest generation ExtraBond® Polymeric line are based on the ExtraBond® EB phase. This sorbent is a spherical divinylbenzene polystyrene modified with pyrrolidone. It has more capacity and surface area than silica-based packings with high recovery and extraction rates. It is a material that provides a balance between hydrophilic and hydrophobic properties and can be used in a pH range from 1 to 14. The ExtraBond® Polymeric range consists of 4 types of packing materials with differing polarities due to modifications.

### EBH. POLYMER PHASE NON-POLAR, STYRENE-DIVINYLBENZENE-BASED. UNIVERSAL FOR ALL TYPES OF ANALYTES, ACIDIC, BASIC AND NEUTRAL ALTHOUGH IT WAS DESIGNED FOR WEAK BASIC ANALYTES.

PHASE	AMOUNT (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
EBH	30	1	70	50	100	EBH030-01C
EBH	60	3	70	50	50	EBH060-03L
EBH	200	6	70	50	30	EBH200-06T
EBH	500	6	70	50	30	EBH500-06T

### EB2. POLYMER PHASE NON-POLAR, STYRENE-DIVINYLBENZENE-BASED MODIFIED WITH UREA. IT IS USED FOR MOST ANALYTES, EVEN FOR HIGHLY POLAR AND HYDROPHILIC COMPOUNDS. IT IS EXCELLENT FOR ACIDIC, BASIC AND NEUTRAL COMPOUNDS BUT IT IS DRAMATICALLY SUPERIOR FOR ACIDIC COMPOUNDS.

PHASE	AMOUNT (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
EB2	200	6	70	90	30	EB2200-06T



**ECX. CATION EXCHANGE POLYMER PHASE, STYRENE-DIVINYLBENZENE-BASED. IT ACTS AS A DUAL PHASE: REVERSED-PHASE AND CATION EXCHANGER.**

PHASE	AMOUNT (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
ECX	30	1	70	55	100	ECX030-01C
ECX	60	3	70	55	50	ECX060-03L
ECX	200	6	70	55	30	ECX200-06T
ECX	500	6	70	55	30	ECX500-06T

**EAX. ANION EXCHANGE POLYMER PHASE, STYRENE-DIVINYLBENZENE-BASED. IT ACTS AS A DUAL PHASE: REVERSED-PHASE AND ANION EXCHANGER.**

PHASE	AMOUNT (mg)	VOLUME (ml)	PORUS (Å)	PARTICLE (µm)	PACK (U.)	ART. NO.
EAX	30	1	70	55	100	EAX030-01C
EAX	200	6	70	55	30	EAX200-06T
EAX	500	6	70	55	30	EAX500-06T

## SPE: BULK ADSORBENTS EXTRABOND®

### BULK ADSORBENTS EXTRABOND®



ExtraBond® phases are available in bulk so you can prepare your own cartridges, or for extraction of solid samples by putting the packing directly in contact with the sample. Other phases are available and also larger quantities. Please contact [helpdesk@scharlab.com](mailto:helpdesk@scharlab.com).

PHASE	DESCRIPTION	PORUS (Å)	PACK (g)	ART. NO.
AL-N	Aluminium oxide neutral	60	100	000ALN100G
AL-N	Aluminium oxide neutral	60	1000	00ALN1000G
FL	Florisil	60	100	000FL0100G
FL	Florisil	60	1000	00FL01000G
GCB	Graphitized carbon	-	100	CA03530100
GCB	Graphitized carbon	-	1000	CA03531000
NH2	Aminopropyl	60	100	000NH2100G
NH2	Aminopropyl	60	1000	00NH21000G
PSA	Ethyldiamine-N-propyl	60	100	KQ00230100
PSA	Ethyldiamine-N-propyl	60	1000	KQ00231000

## PROBLEMS WITH THE METHOD OF EXTRACTION? IMPLEMENTING A NEW EXTRACTION PROCEDURE?

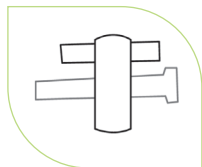


CONTACT SCHARLAB'S CHROMATOGRAPHY HELPDESK: [helpdesk@scharlab.com](mailto:helpdesk@scharlab.com)

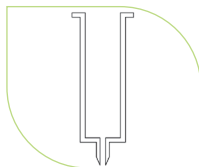
- WHAT IS THE MATRIX?
- WHAT ARE THE ANALYTES OF INTEREST?
- IS SPE BEING EMPLOYED FOR EXTRACTION?

## SPE: ACCESSORIES FOR SPE

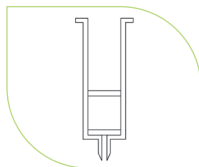
### ACCESSORIES FOR SPE



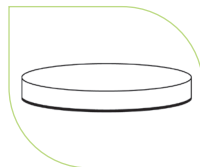
PP keys



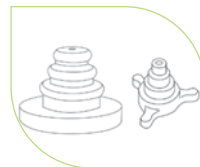
Empty container



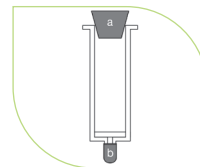
Container with two frits



Frit



Top adapters



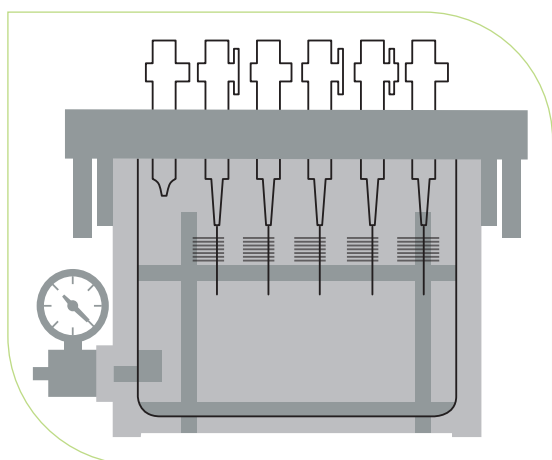
Upper cap (a) and luer tip cap (b)

DESCRIPTION	PACK (U.)	ART. NO.
PP keys for ExtraVac	12	STOPCOCKVA
Container 1 ml	100	EMPTY0-01C
Container 3 ml	100	EMPTY0-03C
Container 6 ml	100	EMPTY0-06C
Container 12 ml	100	EMPTY0-12C
Container 20 ml	100	EMPTY0-20C
Container 60 ml	100	EMPTY0-60C
Container 1 ml with 2 frits 20 µm PE	100	EMP2FR-01C
Container 3 ml with 2 frits 20 µm PE	100	EMP2FR-03C
Container 6 ml with 2 frits 20 µm PE	100	EMP2FR-06C
Container 12 ml with 2 frits 20 µm PE	100	EMP2FR-12C
Container 20 ml with 2 frits 20 µm PE	100	EMP2FR-20C
Container 60 ml with 2 frits 20 µm PE	100	EMP2FR-60C
Frit 20µm PE 1 ml	100	FRITPE-01C

DESCRIPTION	PACK (U.)	ART. NO.
Frit 20 µm PE 3 ml	100	FRITPE-03C
Frit 20 µm PE 6 ml	100	FRITPE-06C
Frit 20 µm PE 12 ml	100	FRITPE-12C
Frit 20 µm PE 20 ml	100	FRITPE-20C
Frit 20 µm PE 60 ml	50	FRITPE-60L
Top adapter for 1,3 and 6 ml cartridges	10	ADAPTS00-E
Top adapter for 10, 12, 20 and 60 ml cartridges	6	ADAPTL00-S
Luer tip cap	100	CAPLUERO-C
Upper cap 1 ml	100	CAPT0P-01C
Upper cap 3 ml	100	CAPT0P-03C
Upper cap 6 ml	100	CAPT0P-06C
Upper cap 12 ml	100	CAPT0P-12C
Upper cap 20 ml	100	CAPT0P-20C
Upper cap 60 ml	50	CAPT0P-60L

## SPE: EXTRAVAC® SCHARLAU VACUUM MANIFOLDS

### EXTRAVAC® SCHARLAU VACUUM MANIFOLDS



DESCRIPTION	PACK (U.)	ART. NO.
Scharlab ExtraVac vacuum manifolds 12 complete, 12 positions	1	EXTRAVAC12
Scharlab ExtraVac vacuum manifolds 20 complete, 24 positions	1	EXTRAVAC20

## SPE: EXTRABOND® QUECHERS

### ExtraBond® QuEChERS

QuEChERS is a multi-residue extraction method for fruits and vegetables that combines two stages.

- Extraction stage: the sample is extracted using Acetonitrile and various salts.
- Dispersive Solid Phase Extraction (SPE) stage: the clean-up of an aliquot of the extract from the first stage is carried out. For this clean-up stage PSA (SPE sorbent) and Magnesium Sulphate are used.

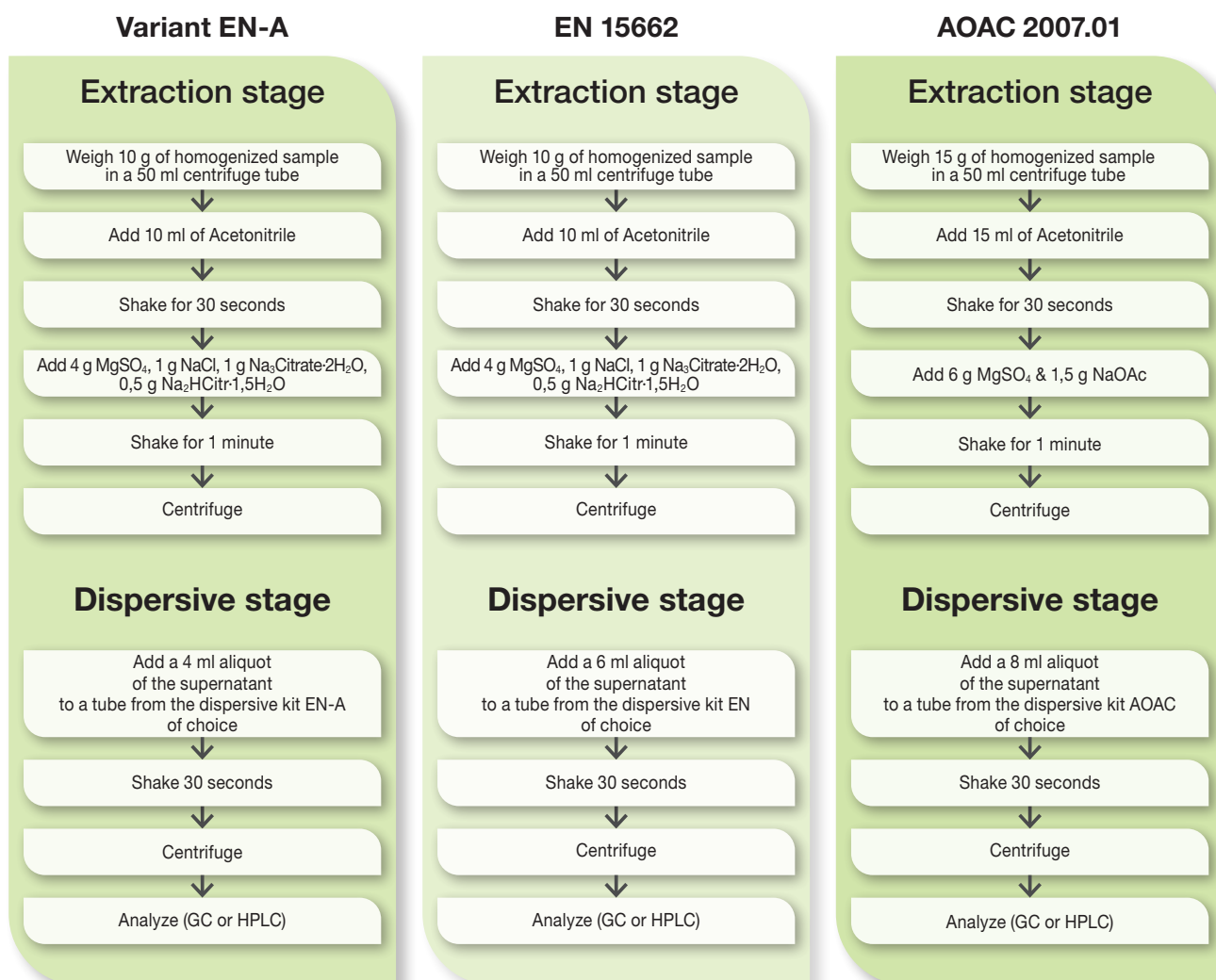
Since the launch of QuEChERS in 2003<sup>1</sup>, many variants of this method have been developed and used according to the matrix and the pesticide residues to be determined. This method is approved by the European and American Food Regulatory Agencies<sup>2</sup>.

Despite being originally developed for the extraction of pesticides in fruits and vegetables, today QuEChERS is also being used to extract many compounds from a wide variety of matrices including milk, meat, fish, kidney, honey, wine and soils.

Scharlab offers extraction and dispersive kits according to European (EN 15662) and American (AOAC 2007.01) methods, as well as a variant of the European method, EN-A. The use of Scharlab variant EN-A, which contains a smaller amount of salts mixture, allows using the suitable quantity of aliquot and salts to optimise the analysis.

<sup>1</sup> Fast and Easy Multiresidue Method Employing Acetonitrile Extraction/Partitioning and "Dispersive SPE" for the Determination of Pesticide Residues in Produce M. Anastassiades, S.J. Lehotay, D. Štajnbaher, F.J. Schenck, J. AOAC Int., 86 (2) 412-431, 2003.

<sup>2</sup> EU Document No. SANCO/10476/2003, 5th February 2004 and method prEN 15662: 2007.



## QUECHERS EXTRACTION KITS



For the extraction stage, Scharlau uses mainly sachets for maximum convenience and ease-of-use, although tubes are also available. The content of the sachet is easily poured into a 50 ml tube at the appropriate time, after adding the acetonitrile to the sample. In this way the possible exothermic reaction is avoided, and greater recoveries obtained.

DESCRIPTION	METHOD	PACK (U.)	ART. NO.
1g sodium citrate, 0,5 g sodium hydrogencitrate ses., 4 g MgSO <sub>4</sub> , 1 g NaCl	EN15662	50	QUEXTENAK1
6 g MgSO <sub>4</sub> , 1,5g sodium acetate	AOAC 2007.01	50	QUEXTAOAK1
4 g MgSO <sub>4</sub> , 0,5 g NaCl	-	50	QUEXTCRAK1
4 g MgSO <sub>4</sub> , 1 g NaCl	Original 10	50	QUEXTORAK1
1g sodium citrate, 0,5 g sodium hydrogencitrate ses., 4 g MgSO <sub>4</sub> , 1 g NaCl (tubes of 15 ml)	EN15662	50	QUEXTENBK1
1g sodium citrate, 0,5 g sodium hydrogencitrate ses., 4 g MgSO <sub>4</sub> , 1 g NaCl (tubes of 50 ml)	EN15662	25	QUEXTENCK1

## QUECHERS DISPERSIVE KITS



For the solid-phase stage, all tubes from ExtraBond® QueChERS kits have the product code and batch number imprinted on them for maximum traceability. When working with Scharlau's variant EN-A, use kit QUDISENAK2 for general analysis.

### GENERAL FRUITS AND VEGETABLES

COMPOSITION	METHOD	VOLUME (ml)	PACK (U.)	ART. NO.
100 mg PSA, 600 mg MgSO <sub>4</sub>	Variation EN-A	15	50	QUDISENAK2
150 mg PSA, 600 mg MgSO <sub>4</sub>	EN 15662	15	50	QUDISENNK2
400 mg PSA, 1200 mg MgSO <sub>4</sub>	AOAC 20007.01	15	50	QUDISAONK2

## SPE: EXTRABOND® LLE

### EXTRABOND® LLE



Developed to speed up liquid-liquid extractions in laboratories. ExtraBond® LLE cartridges are made of polypropylene medical grade and contain diatomaceous earth, a high purity packing chemically stable to solvents. Unlike solid phase extraction cartridges, ExtraBond® LLE operates simply by gravity without the need for vacuum. For preparation of biological samples, the cartridge must be selected with the volume of adsorbent corresponding to the total volume of the sample, including buffers and additives. The method is very simple. When an aqueous sample is added to ExtraBond® LLE, it acts to distribute as a thin film on its surface. When the organic solvent (immiscible with water) is added, the resulting liquid-liquid extraction is very fast and efficient. This is a general method suitable for sample preparation prior to LC-MS. For purification of organic reaction mixtures, fill the cartridge with acidified water (to remove amines) or water with an alkaline pH (to remove acids). The cartridge selection must be based on the total volume of aqueous buffer to be used. Then pass the reaction mixture through the cartridge. It is an easy, fast and reproducible way to remove excess reagents or reaction by-products from an organic reaction mixture.

PHASE	VOLUME (ml)	PACK (U.)	ART. NO.
Diatomaceous earth	20	50	LLE-20C000

# THIN LAYER CHROMATOGRAPHY

## THIN LAYER CHROMATOGRAPHY

### THIN LAYER PLATES



Thin layer chromatography (TLC) is a fast, simple, economical and very versatile technique. Scharlau TLC plates show a high separation power, due to the narrow distribution of silica gel particles. The hardness of the silica layer that homogeneously covers the support and a suitable layer thickness make separation highly efficient. Each batch of TLC is controlled chemically and physically by our Quality Control department to ensure reproducibility from batch to batch and from layer to layer.

ADSORBENT	SUPPORT	INDICATOR	THICKNESS (mm)	SIZE (mm)	PACK (U.)	ART. NO.
Silica gel	Glass	Yes	0,25	200x200	25	TLCGLI2020
Silica gel	Plastic	Yes	0,2	200x200	25	TLCPLI2020
Silica gel	Aluminium	Yes	0,2	200x200	25	TLCALI2020



# VIALS

## VIALS: CHROMATOGRAPHY VIALS

### CRIMP TOP 2 ml VIALS 12x32 mm, WIDE OPENING

The 2 ml crimp top vial 12x32 mm is one of the most commonly used vials in chromatography. A crimper is required for sealing the cap and the vial. High-quality vials, made of borosilicate clear glass Type 1, 33 expansion, are very thermal resistance and inert. The uniform vial shape for maximum autosampler safety as well as in the use of inserts. Most of the existing instruments accept this vial. Detailed below are the vials and caps as well as the most common accessories for these vials.



BASVTRCR12



BASVAMCR12

DESCRIPTION	MATERIAL	PACK (U.)	REFERENCIA
Crimp top vial	Transparent glass	100	BASVTRCR12
Crimp top vial with writing zone	Transparent glass	100	VTWCR12X32
Crimp top vial with writing zone	Amber glass	100	BASVAMCR12
Cap	Aluminium with septum PTFE/silicone	100	CRIMCAP11E
Vial and seal closures with septum	Transparent glass/septum PTFE/rubber	1000	VTRCRIM12M
Vial and seal closures with septum	Amber glass/septum PTFE/rubber	1000	VAMCRIM12M
Insert flat bottom 450 µl	Transparent glass	100	00WIC47095

### 9-425 SCREW TOP 2 ml VIALS 12x32 mm, WIDE OPENING

The 9-425 2 ml screw top vial 12x32 mm is the most popular screw top vial. It has a "short" thread with a similar height to the aluminium caps, not as high as screw top vials with a narrow opening. High-quality vials, made from borosilicate clear glass Type 1, 33 expansion with great thermal resistance and inert. Uniform vial shape for maximum autosampler safety as well as in the use of inserts. Most of the existing instruments accept this vial. Detailed below are the vials and caps as well as the most common accessories for these vials.



BASVTRRB12



BASVAMRB12

DESCRIPTION	MATERIAL	PACK (U.)	REFERENCIA
Screw top vial	Transparent glass	100	BASVTRRB12
Screw top vial with writing zone	Transparent glass	100	VTWRB12X32
Screw top vial	Amber glass	100	BASVAMRB12
Screw top vial with writing zone	Amber glass	100	VAWBE12X32
Cap	With septum PTFE/silicone	100	RBBLSILCAP
Cap	With septum PTFE/silicone	100	BASRBBSIL
Cap	With septum PTFE/precut silicone	100	BASRBBLPRE
Yellow cap	With septum PTFE/precut silicone	100	RBYWSILPRE
Red cap	With septum PTFE/silicone	100	RBRDSILCAP
Vial and cap	Transparent glass/septum PTFE/silicone	1000	VTRRBCAPSM
Vial and cap	Amber glass/septum PTFE/silicone	1000	VAMRBCAPSM
Vial and cap	Transparent glass/septum PTFE/precut silicone	1000	VTRRBSLITM
Vial and cap	Amber glass/septum PTFE/precut silicone	1000	VAMRBSLITM
Insert flat bottom 350 µl	Transparent glass	100	00WIC47095
Screw top vial	Polypropylene	100	VPPRB12X32



## 8-425 2 ml SCREW TOP VIALS 12x32 mm, NARROW OPENING



00S500-062



S11015100C

The **8-425 2 ml screw top vial 12x32 mm** is a less used vial than the former. High-quality vials, made of borosilicate clear glass Type 1, 33 expansion with great thermal resistance and inert. Uniform vial shape for maximum autosampler safety as well as in the use of inserts. Most of the existing instruments accept this vial. Detailed below are the vials and caps as well as the most common accessories for these vials.

DESCRIPTION	MATERIAL	PACK (U.)	REFERENCIA
Screw top vial	Transparent glass	100	S11015100C
Cap	With septum PTFE/silicone	100	00S500-062

## SNAP VIALS 12x32 mm

The snap caps are designed to be used with a plastic snap top cap. These caps eliminate the need for crimping. The caps simply snap over the top of the vial, sealing the contents safely inside.



VTRSN12X32



VTWSN12X32



VAMSN12X32



VAWSN12X32



WPTBSILCAP



BPTSILSCAP

DESCRIPTION	MATERIAL	PACK (U.)	REFERENCIA
Snap vial	Transparent glass	100	VTRSN12X32
Snap vial with writing zone	Transparent glass	100	VTWSN12X32
Snap vial	Amber glass	100	VAMSN12X32
Snap vial with writing zone	Amber glass	100	VAWSN12X32
Cap	With septum PTFE/silicone	100	WPTBSILCAP
Cap	With septum PTFE/silicone precut	100	BPTSILSCAP

## CRIMP TOP VIALS FOR HEADSPACE

**Flat bottom vials** are used for Agilent and Carlo Erba autosamplers. **Those with a conical bottom** are specific for Perkin-Elmer, Tekmar and Varian/Bruker. Amber vials for headspace are also available, please contact us for more information.



VTRCR2346P



VTRCR2346P



VTRCR2375P

DESCRIPTION	MATERIAL	PACK (U.)	REFERENCIA
Vial 6 ml 22x38 mm	Transparent glass flat bottom	100	VTRCR2238P
Vial 10 ml 23x46 mm	Transparent glass flat bottom	100	VTRCR2346P
Vial 10 ml 23x46 mm	Amber glass flat bottom	100	VTRAM2246P
Vial 10 ml 23x46 mm	Transparent glass round bottom	100	VTRCR2346R
Vial 20 ml 23x75 mm	Transparent glass flat bottom	100	VTRCR2375P
Vial 20 ml 23x75 mm	Transparent glass round bottom	100	VTRCR2375R
Seal closures	Aluminium with septum PTFE/silicone	100	S20AC0100R
Seal closures	Aluminium with septum PTFE/silicone	1000	S20AC01000
Seal closures	Aluminium with septum PTFE/silicone	100	S20AC0100A
Magnetic cap	With septum PTFE/silicone	100	00WIC44560
Magnetic cap	With septum PTFE/silicone	100	CRIMCAP20M
Septum	PTFE/red rubber	1000	160-504772

**SCREW TOP VIALS FOR HEADSPACE**



00WIC41800



00WIC41820



00WIC41830



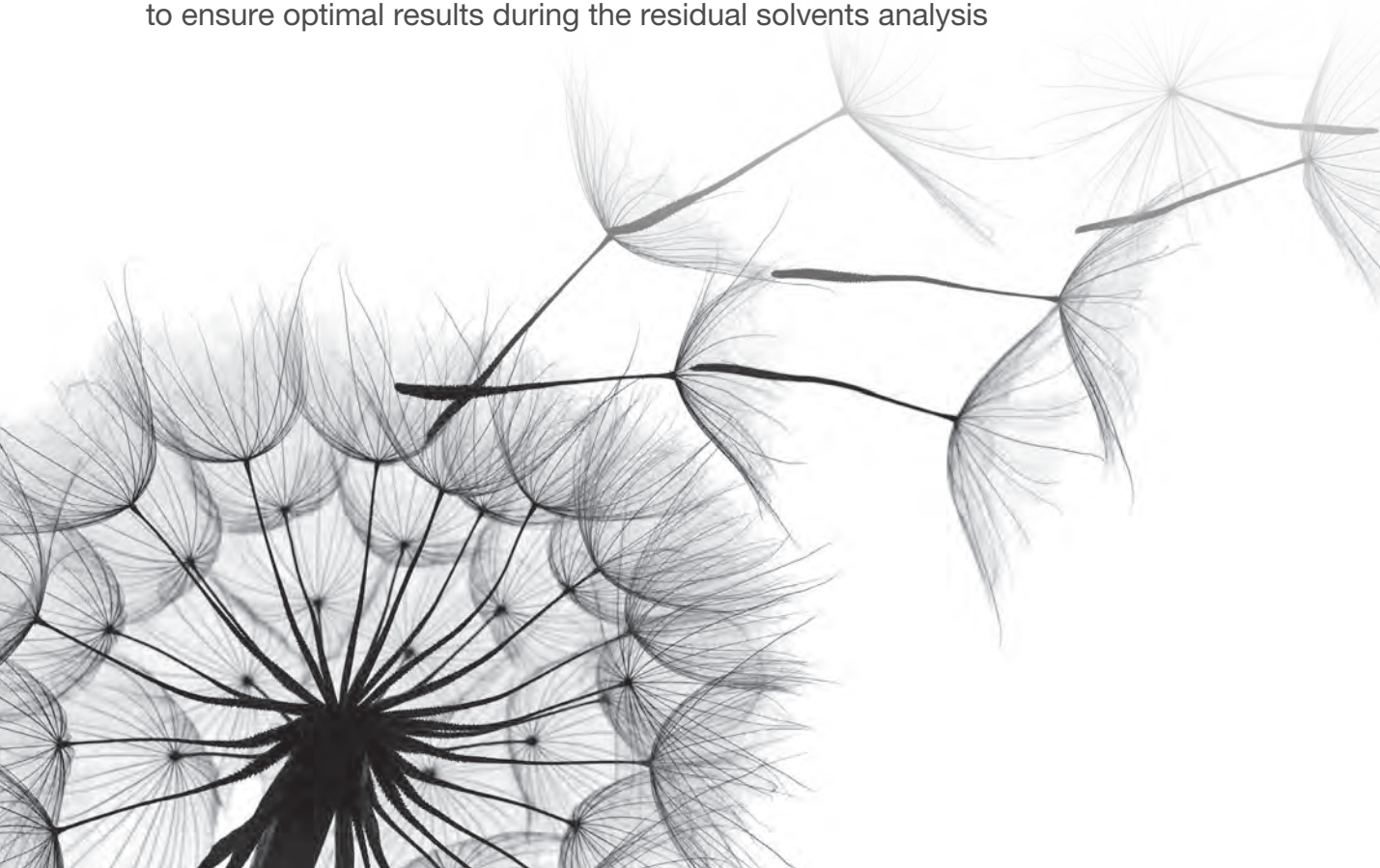
00WIC41870

DESCRIPTION	MATERIAL	PACK (U.)	REFERENCIA
Screw top vial 10 ml	Transparent glass	100	00WIC41800
Screw top vial 10 ml	Amber glass	100	00WIC41810
Screw top vial 20 ml	Transparent glass	100	00WIC41820
Screw top vial 20 ml	Amber glass	100	00WIC41830
Magnetic cap	With rubber septum butyl / PTFE 1,6 mm	100	00WIC41860
Magnetic cap	With silicone septum/PTFE 1,5 mm	100	00WIC41870

# Solvents for GC-Headspace

## Volatile residues under control

DMSO, DMF, DMA, NMP and water control according ICH Q3C to ensure optimal results during the residual solvents analysis





# GLASSWARE

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## Introduction

Thanks to the acquisition of new space for the extension of our workshop, we at Scharlab have continued improving our production of laboratory glassware and growing even more in export markets. Well-equipped workshops and highly skilled specialists make sure our glassware adheres to high quality standards.

### Standard and special glassware

Products for which there is regular demand are produced in larger quantities and then stocked for immediate supply. Other products are either manufactured directly from glass tubing or are made from semi-finished products.

### Quality

Even today, scientific glassblowing remains a highly skilled handcraft and the glassware quality depends on the skill of each blower. Careful selection of the raw glass ensures that our final products are free from imperfections such as air lines, scratches and grains. You will be able to judge the workmanship of our glassware products for yourself.

### Safety

All our glassware is annealed and made stress free, to prevent it from breaking.



# Scharlau, in the scientific glassware business for over 30 years

Scharlau glassware is made from Borosilicate 3.3 glass that meets the specifications of the following standards:

BS ISO 3585, DIN 12217	Type 3.3 Borosilicate glass
ASTM E-438	Type 1 Class A Borosilicate glass
US Pharmacopoeia	Type 1 Borosilicate glass
European Pharmacopoeia	Type 1 Glass

The typical chemical composition of our borosilicate glass is the following:

SiO <sub>2</sub>	81 %
B <sub>2</sub> O <sub>3</sub>	13 %
Na <sub>2</sub> O	4 %
Al <sub>2</sub> O <sub>3</sub>	2 %

There are 4 temperatures worth noting:

#### The working point

The temperature at which glass reaches a viscosity of 104 poise. At this temperature glass is soft enough for most lamp-working or sealing tasks. Borosilicate reaches this state at 1252°C.

#### The softening point

The temperature at which glass reaches a viscosity of 107.6 poise. Borosilicate reaches this state at 821°C.

#### The annealing point

The temperature at which the internal stress caused by rapid cooling (within 15min) from working-point temperatures is safely relieved. Borosilicate reaches this state at 565°C.

#### The strain point

The temperature at which the internal stress in a glass is substantially relieved only after several hours. Borosilicate reaches this state at 510°C.

#### Chemical resistance

Borosilicate glass is resistant to water, acids, halogens and organic solvents.

It has moderate resistance to alkaline solutions and is not resistant to hydrofluoric acid, hot concentrated phosphoric acid nor strong alkaline solutions.





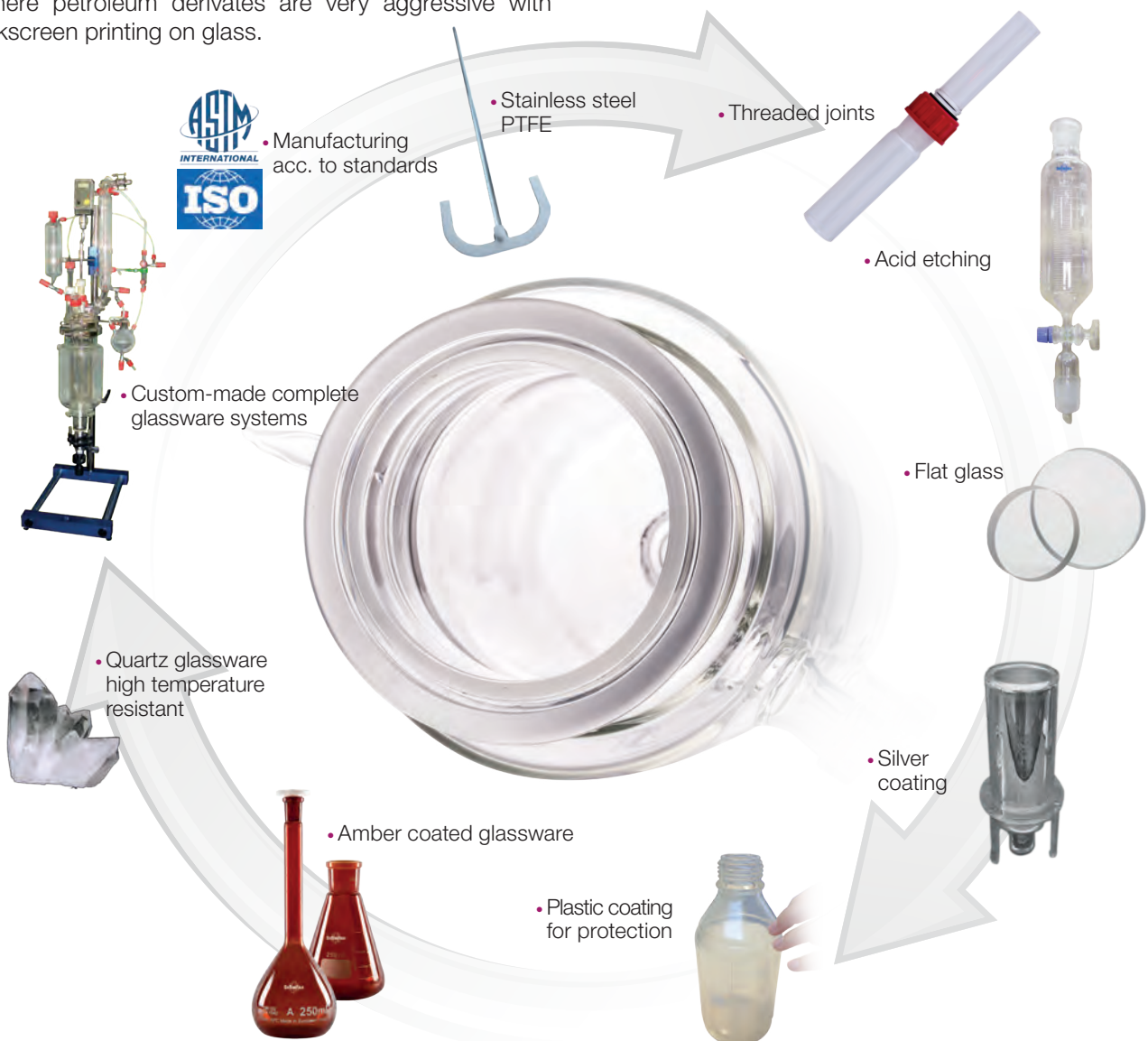
# SCHARLAU GLASSWARE SERVICES

## Scharlab glassware services

Scharlab offers to our customers the following services:

- **In house Calibration of volumetric material according to ISO 17025:2017** by our accredited calibration laboratory.
- Supply and **colouring in amber** of glassware for light sensitive products. Unlike transparent glass, the transmission of amber glass is less than 10% within the wavelength range between 300-500 nm.
- **Acid etching** for all types of pieces. It makes the volumetric graduation of the pieces last forever. This technique is very useful for petrochemical industries, where petroleum derivatives are very aggressive with silkscreen printing on glass.

- **Polymer coating** for laboratory bottles in order to prevent spillage in case of glassware breakage. This also prevents the loss of content inside the bottle.
- **Manufacture under ISO, ASTM**, etc rules. Our experience and knowledge are made available for the manufacture of parts in line with all kinds of regulations.
- Possibility to **manufacture quartz pieces**. Quartz resists working temperatures up to 1000°C.
- **Use of high-quality compounds**. We work with Duran® borosilicate 3.3 glass, and we can also work with PTFE, stainless steel or Hastelloy®, very chemical resistant compounds.



### Classification according to the precision

Class A and AS volumetric instruments have identical error limits as established by DIN EN ISO. For class AS volumetric instruments, calibrated to deliver (TD, Ex), the additional 'S' means swift delivery.

#### Delivery time

The delivery time is defined as the period of time required for the free fall of the meniscus (discharge of water due to gravity) from the upper volume mark to reach the lower volume mark or the tip. This is related to the defined waiting time for class AS volumetric instruments. In class AS pipettes the delivery time is much faster than in class A pipettes (see example below).

#### Waiting time

The waiting time is the time taken from when the meniscus comes to rest at the lower volume mark or in the tip, until the residual liquid has finished flowing down from the glass wall of the pipette into the vessel.

Waiting time for class AS: The waiting time for class AS bulb and graduated pipettes is 5 s which is indicated on the pipette by the manufacturer. The pipette should not be removed from the receiving vessel until this time has elapsed starting from when the meniscus comes to rest in the tip/lower volume mark.

Class A pipettes have no waiting time and thus compensate for the slower delivery time.

The following are delivery and waiting times for different classes of 25 ml bulb pipettes:

Class A	Class AS
Delivery time: 25–50 s	Delivery time: 15-20 s
Waiting time: 0	Waiting time: 5 s

### Certificate of performance

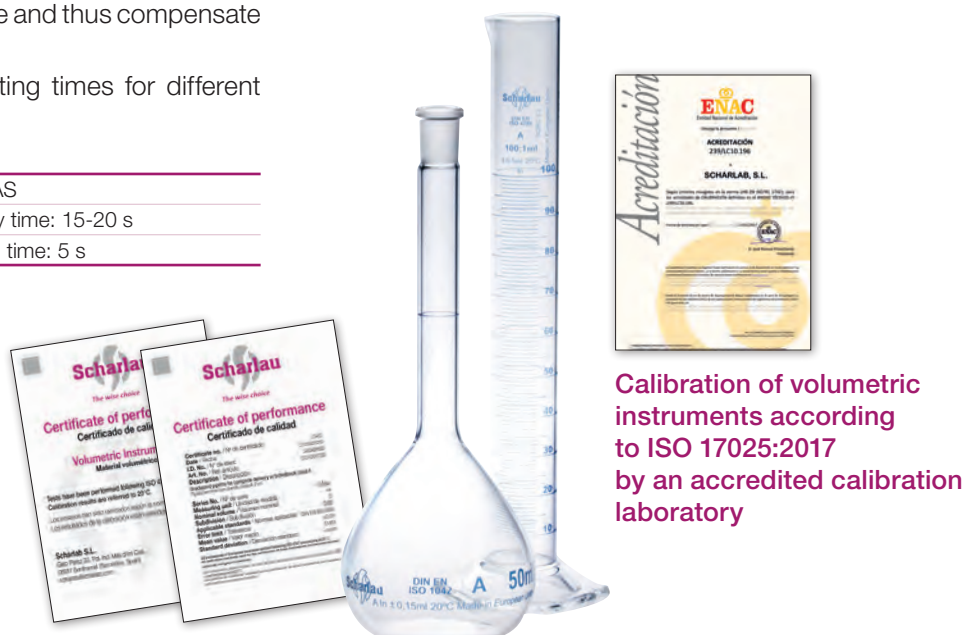
Our volumetric instruments are calibrated in an accredited laboratory according to ISO 17025:2017 for the calibrating of volumetric instruments. Our range of calibration for volumetric instruments is:

- Volumetric flasks from 5 ml up to 21 l, both transparent and amber ones
- Volumetric cylinders from 5 ml up to 5 l with stopper or spout
- Volumetric pipettes from 1 ml up to 100 ml of one and two marks
- Graduated pipettes from 1 ml up to 25 ml
- Burettes from 1 ml up to 100 ml, with glass or PTFE stopcocks

All of our AS & A class volumetric glassware material comes with a performance certificate in the packaging. It is a batch certificate, and each piece has the batch number printed. A certificate is emitted for each batch, and contains, among others, the "mean value" and the "standard deviation".

### Quality

Quality assurance is based on compliance with European (EN) and international (ISO) standards. Statistical Process Control (SPC) helps us obtain the smallest possible deviation from the nominal value (precision) and, at the same time, the minimum dispersion of the individual results (coefficient of variation).



Calibration of volumetric instruments according to ISO 17025:2017 by an accredited calibration laboratory



**Download this brochure**



## Volumetric flasks with coloured neck

The neck colours offer a wide range of possibilities. They can be used for the identification and separation of different API's in the pharma industry as well as for the usage of different groups in a shared lab. The flasks are available in four colours: blue, red, green and yellow. Other colours are available on request.

# Several players-different colours



### Important information about volumetric glassware

Volumetric glassware is not designed to be heated; however, the following must be taken into account:

- To ensure a long life for the volumetric glass and prevent possible changes in volume, these products should not be heated above 180°C in drying stoves or in autoclaves.
- Never heat the volumetric glass on a heating plate.
- Whenever the volumetric glass has to be heated or cooled, it should be done gradually and not suddenly, to prevent possible glass breakage.
- The batch certificates of the volumetric glass are based on a reference temperature of 20°C.

### Tips and precautions for cleaning of volumetric glassware

#### Tips

- With volumetric glassware, we have to ensure reproducibility. This is why perfect wetting has to be achieved in order not to distort the meniscus and not to affect the volume of liquid of any volumetric glassware calibrated to deliver.
- Therefore, cleaning has to be done in such a way as to eliminate organic substances, especially grease, that may not allow a uniform wetting with distilled water.
- After the washing process, glassware must be rinsed thoroughly with distilled water.
- If glassware is to be dried, as is the case with all flasks marked “to contain”, ethanol or acetone can be used for rinsing.
- The drying process may be shortened by passing dry air through it. To ensure that the air is really clean and free from oil, the air compressor must be equipped with appropriate filters.

#### Precautions

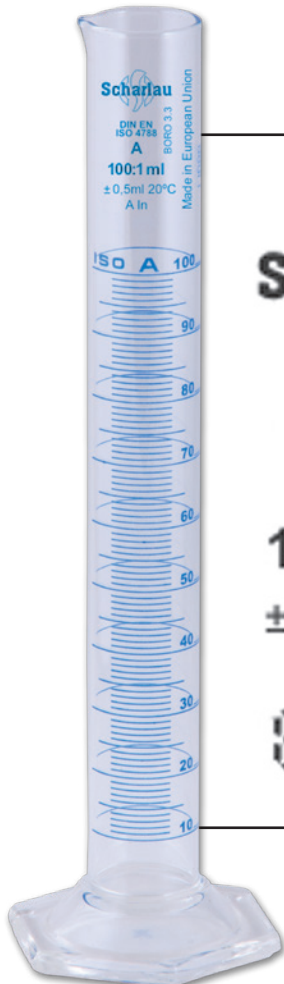
- Never try to remove any dirt by applying direct heat. This may cause the calibration of the volumetric glassware to be altered.
- Use no abrasives on volumetric glassware, as the scratches may become a place where dirt is deposited, or they may prevent correct drainage of liquid.
- Use manual pipetting aids, but never your mouth, to fill containers with the cleaning solution.
- Graduated lines in blue or white colour which have been fused onto the glass are quite resistant to alkalis and acids but are not as resistant as the glassware itself. Therefore, avoid immersion in such solutions for a prolonged time.
- Pipette graduations coloured amber are as chemically-resistant as the glassware itself, since in this case the glassware has been stained with the colour.

# MARKING OF OUR VOLUMETRIC INSTRUMENTS



**Scharlab**  
DIN EN ISO 835  
AS  
10  
±0,05  
ml  
AS Ex + 5s 20°C Made in European Union

**Scharlab**  
DIN EN ISO 648  
AS  
1  
±0,008  
ml  
AS Ex + 5s 20°C Made in European Union



**Scharlab**  
DIN EN ISO 4788  
A  
100:1 ml  
±0,5ml 20°C  
A In  
BORO 3.3  
Made in European Union

- Brand name
- ISO compliance
- Class (A, AS or B)
- Nominal volume
- Error limit
- Volume unit
- Reference temperature
- Waiting time
- Calibration type
- Batch number

- Brand name
- ISO compliance
- Class (A or B)
- Nominal volume
- Volume unit
- Error limit
- Reference temperature
- Calibration type
- Batch number





# SCHARLAU MOULDED GLASSWARE

## Moulded glassware

In order to meet the growing demands and standards in terms of quality assurance, all of our ISO bottles, beakers and Scharlau brand Erlenmeyer flasks incorporate a retrace code. This nine-digit identification code allows traceability of these products back to the moment of their manufacture and the corresponding batch, which is very important in the medical, pharmaceutical and food industries, where packaging traceability is mandatory. For greater ease, these products also incorporate a graduated double scale to indicate the approximate content.



# SCHARLAU GROUND JOINT GLASSWARE

## Ground joint glassware

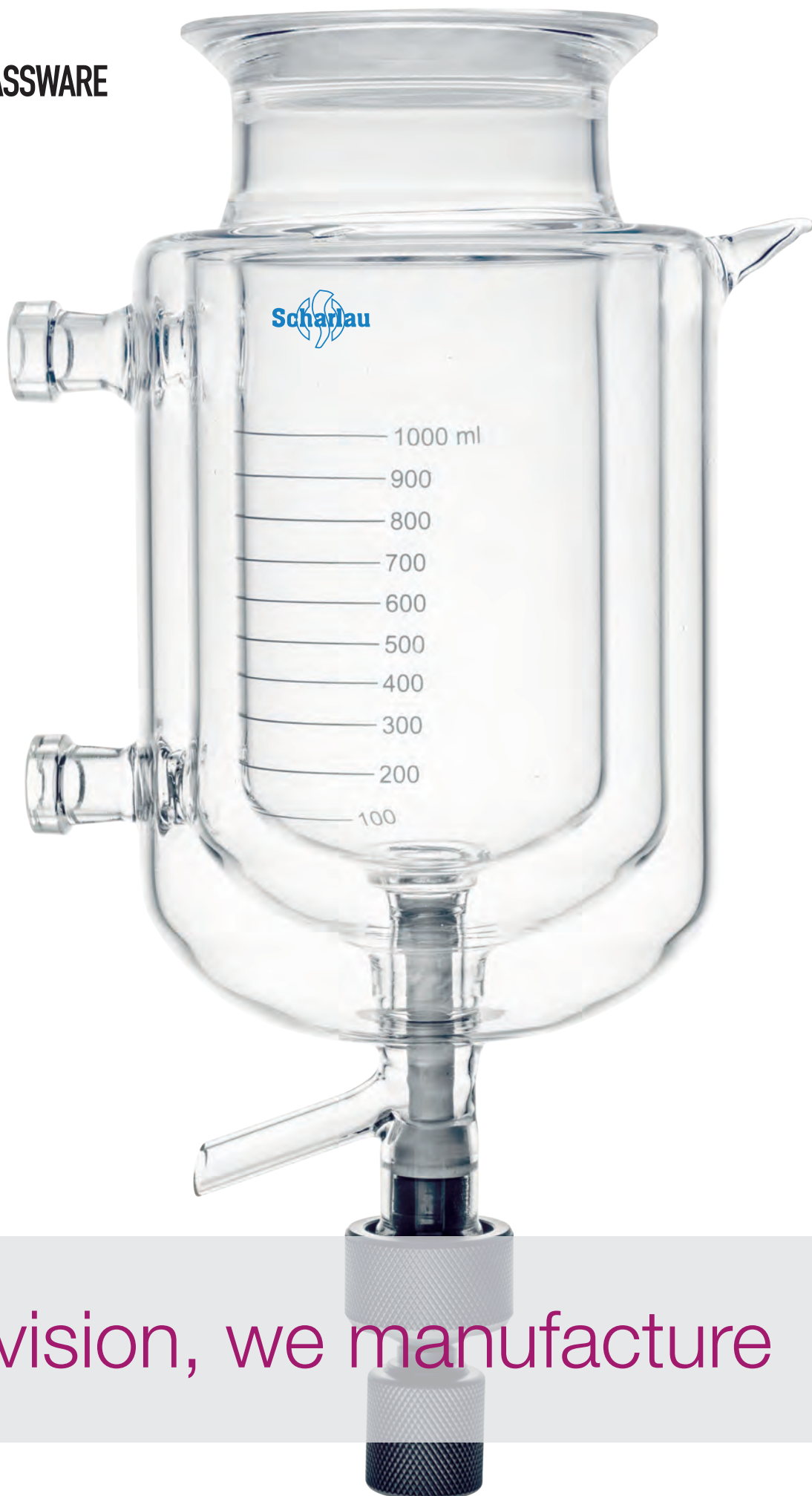
For the manufacture of our material, we use highly transparent and bubble free Borosilicate 3.3 tubing in order to obtain excellent end products. We carry a vast stock of both prefabricated and finished products for immediate delivery. The glass tubing is then manipulated by highly qualified glassblowers according to international standards.

Some of our products are:

- Columns
- Funnels
- Filtration system
- Pycnometers
- Flasks
- Reactors



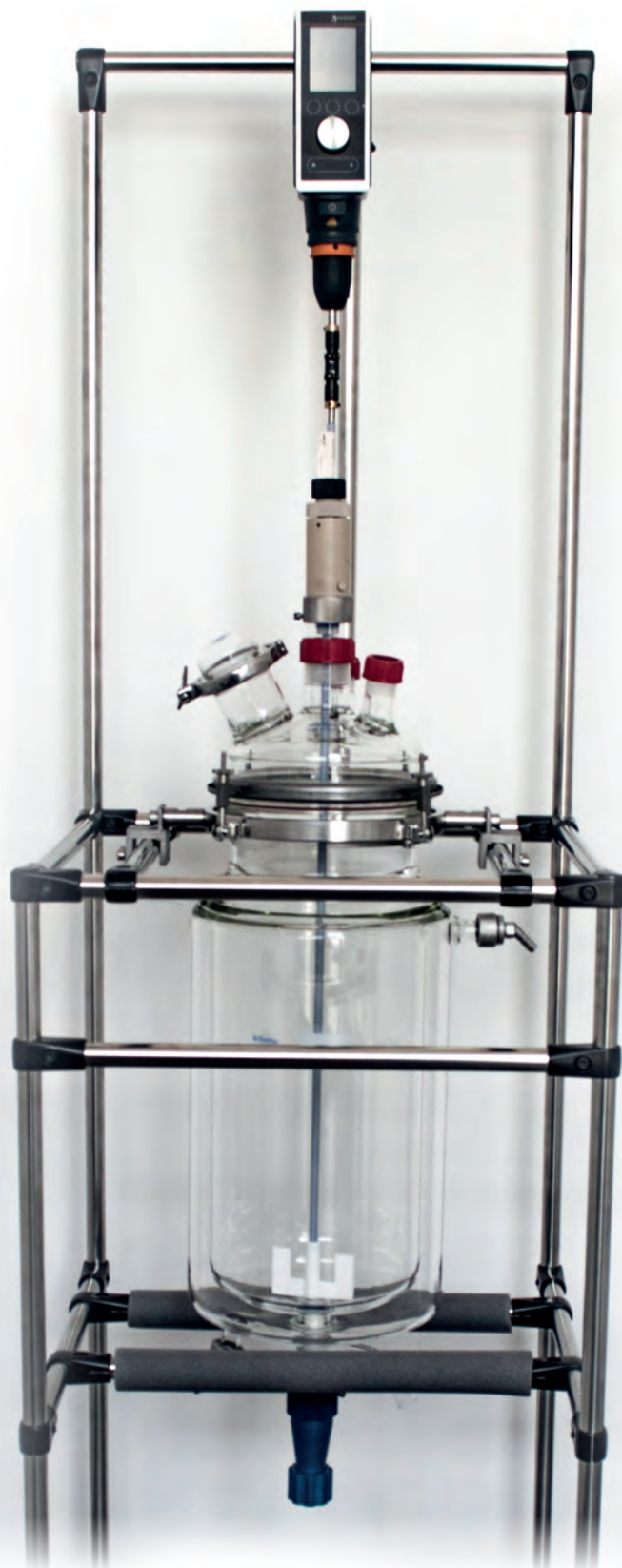
**SCHARLAU**  
**CUSTOM-MADE GLASSWARE**



You envision, we manufacture

## Custom-made glassware

In over 30 years we have accumulated a vast library of over 1000 different pieces of special glassware made to order. Let us know your special request and we shall quote you our best offer. In addition, we offer also other services, such as amber painting, plastic coating or production of complete glass-reaction configurations.





# SCHARLAU GLASSWARE

## OUR PACKAGING

### Our packaging

Thinking about the best way to deliver our glassware, we have developed new packaging, in order to prevent breakages during transport. Our box for molded glass products contains ten separated spaces for safe delivery. Similarly, volumetric glassware is packed into a box of 2 and this box can be combined into the next bigger unit of 4 boxes for safer delivery.



## Safe handling of glassware

- With volumetric glassware, we have to ensure reproducibility. This is why perfect wetting has to be achieved in order not to distort the meniscus and to wear protective clothing such as cut resistant gloves, eye protection, aprons and lab coats when manipulating and working with laboratory glassware.
- Do not use chipped or broken glassware as you may cut yourself. Such glassware also breaks more easily.
- Use safety shields, nets or coatings to prevent broken glass from hitting you.
- Check all glassware for damage as even small cracks, chips or scratches affect glassware strength.
- Never heat damaged glassware as resistance to heat is equally compromised.
- Use wire gauze when heating with an open flame or use only up to a medium heat when using a hot plate.
- Heat up and cool down glassware as slowly as possible, even when using Borosilicate glass, which has a very low coefficient of expansion. Maximum working temperature for Borosilicate glass is 500°C, however special precautions must already be taken for working temperatures above 150°C.
- Do not heat extra thick glassware. This glassware is ideal for working under vacuum when higher mechanical strength is required, but this glass is less heat resistant.
- Do not subject ordinary, thin walled, laboratory glassware to pressure or vacuum.
- Lift glassware by the body and not by the more fragile rims or side arms.
- When heating glass bottles, loosen the caps.
- Be careful when sliding tubing over sidearms. Always use protective gloves.
- Never pipette by mouth. You may get intoxicated, burn your mouth or cut your lip.
- Do not use excessive force and wear protective gloves when trying to free stuck jointed glassware. Use only gentle tapping or rocking of the two sides of the joints. The use of threaded safety joints prevents joints from sticking.
- Do not leave pipettes or glass-rods sticking out of beakers, bottles or flasks.
- Do not heat glassware to over 420°C. This will cause stresses in the glassware that will eventually cause it to break.





# CLEANING OF GLASSWARE

## Cleaning of glassware

### General

The cleaning procedure for glassware depends on the type of material in it.

Borosilicate glass has excellent resistance to most acids except hydrofluoric acid. Strong alkaline solutions will also attack the glass, which is why detergents should be diluted up to no more than 2% strength. Avoid exposure to detergents for long periods and prevent the same from drying on the glass.

- Glassware should be cleaned as soon as possible to prevent residues from hardening.
- Ideally, give glassware a rinse or soak with organic solvent to remove grease and then another thorough rinse with water.
- Cleaning can be done in a glass washing machine or manually.

### Washing machine

Choose from the wide variety of detergent formulations offered by laboratory specialists for washing machines, depending on the residues you need to eliminate. These formulations are optimised for typical laboratory residues. Check that the support racks and pins are well coated with a nonabrasive material to prevent the glass from being scratched or broken by a hard surface.

### Manual wash

Use only soft sponges or other soft clothes or plastic core brushes with non-abrasive bristles.

Choose from the wide variety of detergent formulations offered by laboratory specialists for manual washing, depending on the residues you need to eliminate. These formulations are optimised for typical laboratory residues.

### Specialised cleaning methods

**1. Permanganate stains.** Use a mixture of equal volume 3% sulphuric acid and 3% hydrogen peroxide.

**2. Iron stains.** Use a solution containing equal parts of hydrochloric acid and water.

**3. Bacteriological material.** Glassware should be soaked in a disinfectant solution or steam autoclaved. After that, clean with a detergent.

Special precautions during the cleaning process:

- Do not use any abrasive sponges as used in kitchens for cleaning pots.
- Avoid any detergents or cleaning solutions that contain abrasive particles.
- Remove any hard objects like metal spatulas, stirring rods or brushes immediately. They can break the glass or scratch it.
- Strong alkaline domestic or industrial detergents will dissolve the glass and eventually cause breakage.
- Remove any kind of metal jewellery as well as rings with gems if you plan to put your hand inside glassware.

# CARE AND HANDLING OF GLASSWARE

## Ground-glass joints and glass stopcocks

If ground-glass joints are not lubricated, they may “freeze”. Ground joints must be carefully cleaned before lubrication to avoid any particles from scratching the surface and causing leakage.

Apiezon, silicone-based, and fluoroether-based greases can be used depending on the purpose:

- Apiezon or similar hydrocarbon-based greases are cheap and suitable for high vacuum applications. As they dissolve well in organic solvents, the advantage is that the glass can be cleaned well with hexanes or pentane. The disadvantage, however, is that this lubricant may easily contaminate reaction mixtures.
- Silicone-based greases are relatively inert, but contamination of reaction mixtures cannot be excluded completely. Soaking in a base bath is the best method to remove this lubricant as it is resistant to organic solvents.
- Fluoroether-based greases are the most inert of all and resistant to solvents, acids, bases, and oxidisers. The drawback is that they are quite expensive and not easily removed by cleaning.

Proper lubricating of ground-joints is done by applying grease only on the upper part of the inner joint. The joint is properly lubricated if it appears clear and without striations.

In order to lubricate stopcocks, spread two circular bands of grease around the plug of the stopcock. After having inserted the plug into the barrel and twisting several times, the assembly should be completely transparent. Avoid plugging the bore by using too much grease.

## Stopcocks with PTFE Plugs (Polytetrafluoroethylene)

**PTFE offers a number of advantages over glassware in the sense that it is very tough, heat resistant and durable. PTFE plugs do not “freeze” and hence do not require any lubricant that may cause contamination.**

### PTFE properties

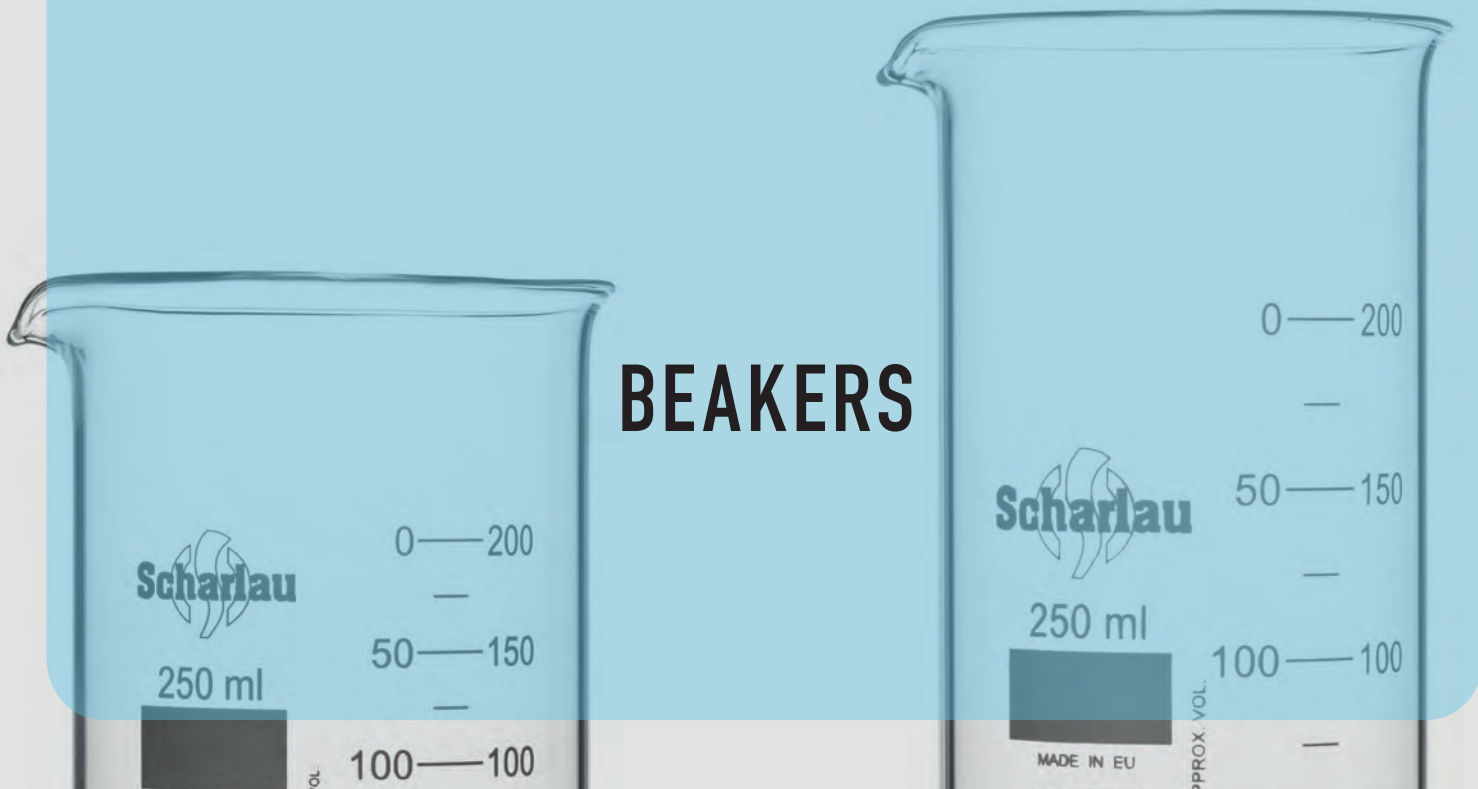
Properties	Advantages
Extreme chemical resistance	Withstands corrosive environments Does not contaminate
Insoluble	No contamination in ultra-pure or corrosive applications
High thermal stability	Working temperatures from -200 to +300°C Does not melt to a liquid phase - an in-built safety feature
Exceptional electrical properties	Extremely high electrical resistance Low dielectric constant and dielectric loss factor
Does not support tracking Lowest coefficient of friction of all solids Other materials exhibit little or no adhesion to PTFE Good flexural properties	Exceptional anti-adhesion properties
Outstanding resistance to fatigue No embrittlement in liquid helium	

Here are some tips to obtain maximum performance:

- Before you start using a new plug, disassemble it, rinse the plug and barrel with acetone and then dry everything.
- The PTFE washer should always be placed adjacent to the end of the glass barrel to ensure minimal friction. After tightening the plug, it should turn only slightly harder than a lubricated glass plug. Solid particles can easily score the plug around the bore and the plug may leak.
- Do not use stopcocks with PTFE plugs on a vessel used for long-term storage of liquids known to attack glass. The surface of the barrel may become roughened and leakage may occur.



**NOTE:** Young stopcocks for high vacuum available on request.



# BEAKERS

## BEAKERS

### BEAKERS, LOW FORM, GRADUATED, BOROSILICATE GLASS DIN 12331



CAP. (ml)	Ø (mm)	HEIGHT (mm)	RETRACE CODE	DOUBLE GRADUATED SCALE	PACK (U.)	ART. NO.
25	34	50	No	No	10	1033550103
50	42	60	Yes	Yes	10	1033550104
100	50	70	Yes	Yes	10	1033510105
150	60	80	No	No	10	1033510106
250	70	95	Yes	Yes	10	1033510108
400	80	110	No	No	10	1033510110
600	90	125	Yes	Yes	10	1033510112
800	100	135	No	No	10	1033510113
1000	105	145	Yes	Yes	10	1033510114
2000	130	185	Yes	Yes	4	1033510115

### BEAKERS, TALL FORM, GRADUATED, BOROSILICATE GLASS DIN 12331



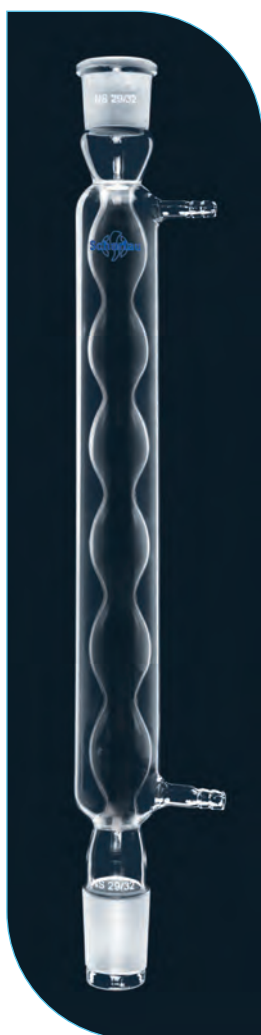
CAP. (ml)	Ø (mm)	HEIGHT (mm)	RETRACE CODE	DOUBLE GRADUATED SCALE	PACK (U.)	ART. NO.
25	28	60	No	No	10	1033550203
50	38	70	Yes	Yes	10	1033550204
100	48	80	Yes	Yes	10	1033510205
150	54	95	Yes	Yes	10	1033510206
250	60	120	Yes	Yes	10	1033510208
400	70	130	Yes	Yes	10	1033510210
600	80	150	No	No	10	1033510212
800	90	175	No	No	10	1033510213
1000	95	180	Yes	Yes	10	1033510214
2000	120	240	No	No	10	1033510215



# CONDENSERS

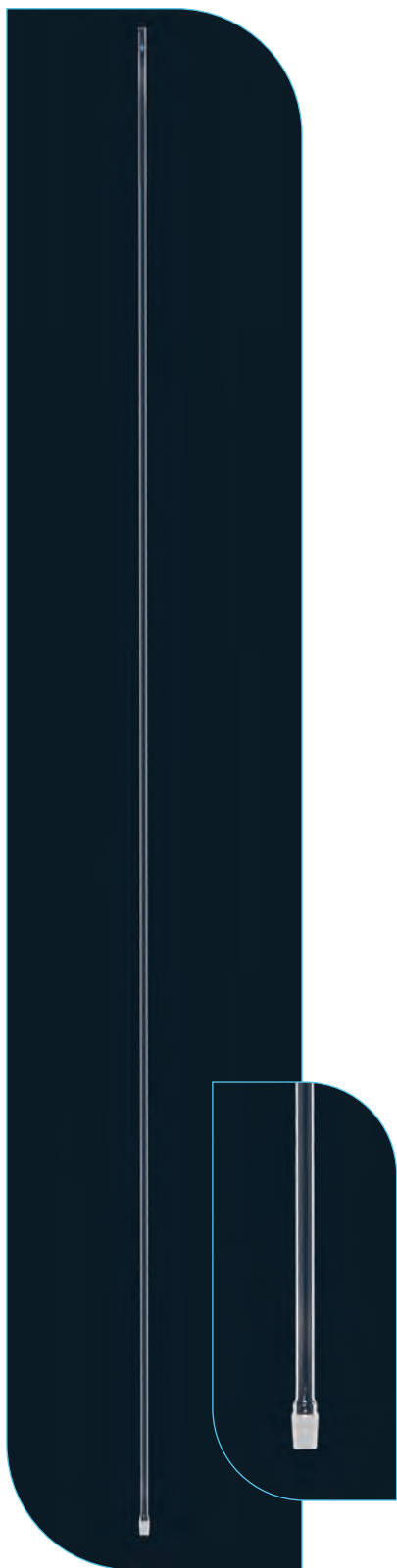
## CONDENSERS

### ALLIHN CONDENSER



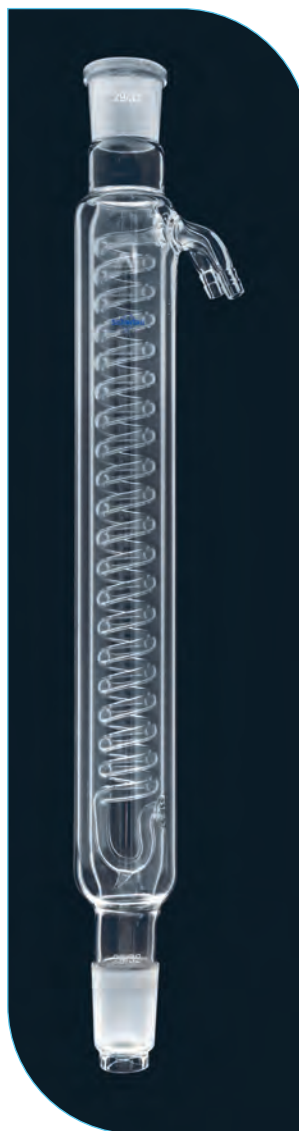
GROUND JOINTS	USABLE LENGTH (mm)	PACK (U.)	ART. NO.
C/S-14/23	200	1	073-000446
C/S-29/32	200	1	073-000447
C/S-29/32	300	1	073-000449
C/S-29/32	500	1	073-000451

**AIR CONDENSER, CONE**



GROUND JOINTS	USABLE LENGTH (mm)	PACK (U.)	ART. NO.
C-14/23	500	1	073-000410
C-29/32	500	1	073-000416
C-14/23	1000	1	073-000411
C-29/32	1000	1	073-000412

**DIMROTH JACKETED CONDENSER**



GROUND JOINTS	USABLE LENGTH (mm)	PACK (U.)	ART. NO.
C/S-29/32	300	1	073-000481
C/S-29/32	400	1	073-400481

## DIMROTH CONDENSERS WITH GROUND JOINTS



GROUND JOINTS	USABLE LENGTH (mm)	PACK (U.)	ART. NO.
C/S-14/23	110	1	073QS03287
C/S-14/23	150	1	073-000473
C/S-14/23	200	1	073-000474
C/S-29/32	200	1	073-000475
C/S-29/32	250	1	073-000476
C/S-29/32	300	1	073-000477
C/S-29/32	400	1	073-0162/4

## LIEBIG WEST CONDENSERS WITH GROUND JOINTS



GROUND JOINTS	USABLE LENGTH (mm)	PACK (U.)	ART. NO.
C/S-14/23	120	1	073-000425
C/S-14/23	200	1	073-000426
C/S-14/23	250	1	073-000427
C/S-14/23	300	1	073-000428
C/S-29/32	250	1	073-000429
C/S-29/32	300	1	073-000430
C/S-29/32	400	1	073-000431
C/S-29/32	500	1	073-000432
C/S-29/32	600	1	073-000433



# FILTRATION

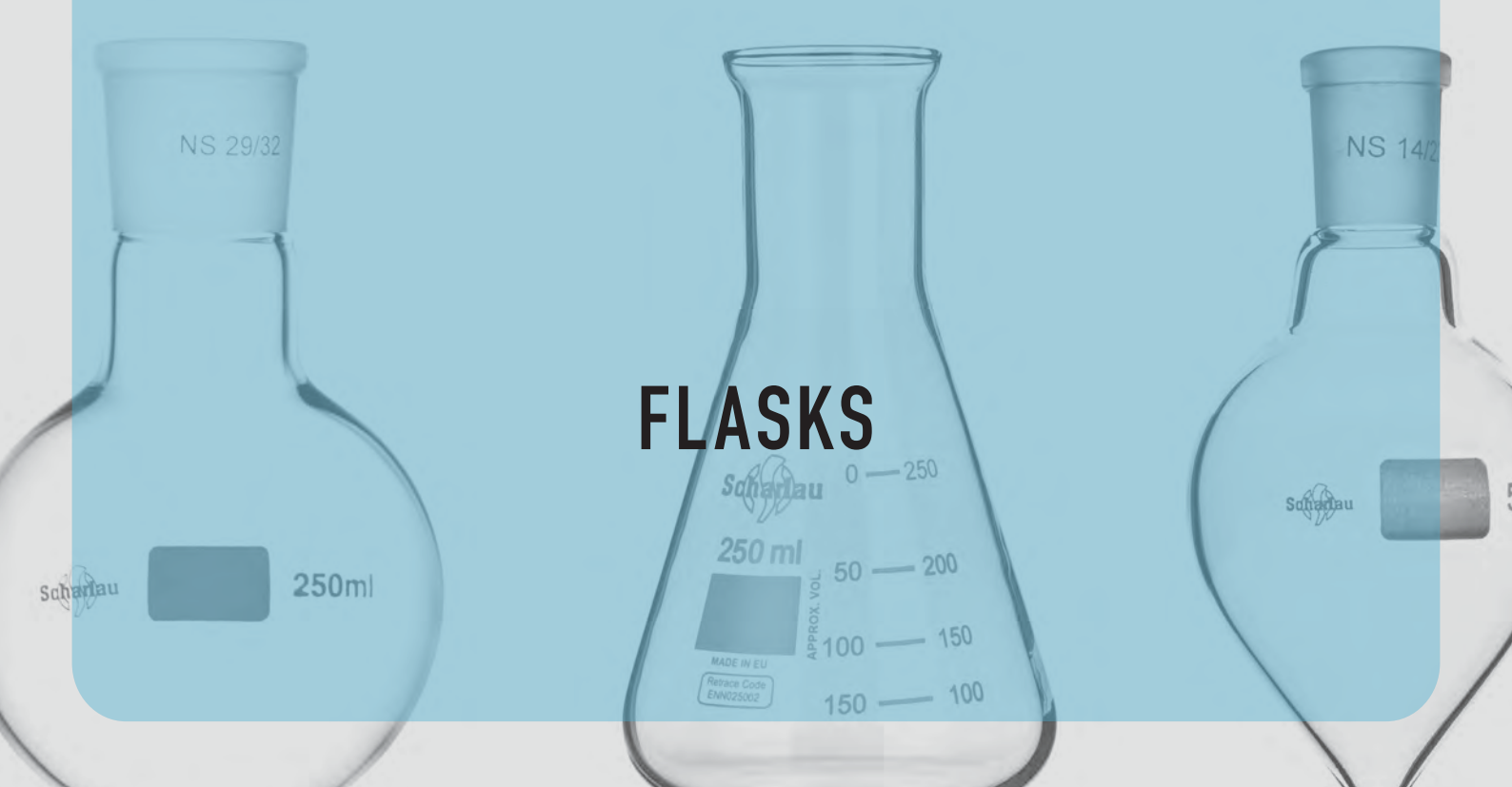
## FILTRATION: FILTRATION SYSTEMS

### FILTRATION ASSEMBLY FOR 47 mm MEMBRANES



DESCRIPTION	PACK (U.)	ART. NO.
Complete	1	073-001119
47 mm filter support	1	073-001120
Support funnel 300 ml	1	073-001121
Metal clip	1	073-Q279-5
1000 ml filtering flask	1	0033768104
Neoprene plug number 8	1	073-426151

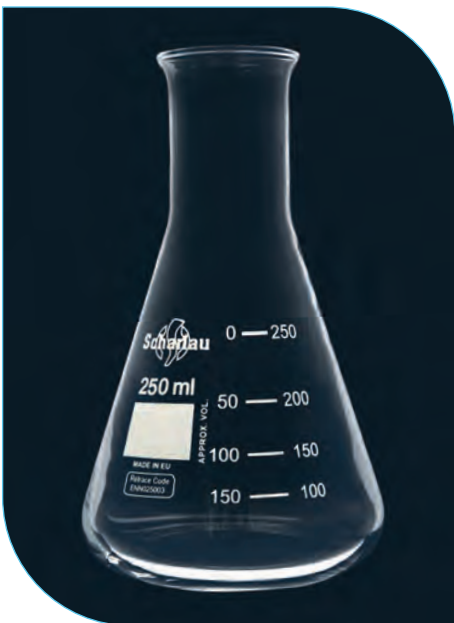
See **filtration membranes** in **CONSUMABLES**.



# FLASKS

## FLASKS: ERLENMEYER FLASKS

### ERLENMEYER FLASKS NARROW NECK DIN 1773



### ERLENMEYER FLASKS WIDE NECK DIN 1773



CAP. (ml)	Ø NECK (mm)	HEIGHT (mm)	DOUBLE SCALE GRADUATED	RETRACE CODE	PACK (U.)	ART. NO.
25	22	75	No	No	10	1033567303
50	22	90	No	No	10	1033567304
100	22	105	No	No	10	1033527305
200	34	135	No	No	10	1033527307
250	34	145	Yes	Yes	10	1033527308
300	34	160	No	No	10	1033527309
500	34	180	Yes	Yes	10	1033527311
1000	42	220	Yes	Yes	10	1033527314
2000	50	280	No	No	10	1033567315

CAP. (ml)	Ø NECK (mm)	HEIGHT (mm)	DOUBLE SCALE GRADUATED	RETRACE CODE	PACK (U.)	ART. NO.
25	31	70	No	No	10	1033567503
50	34	85	No	No	10	1033567504
100	34	105	Yes	Yes	10	1033527505
200	50	131	No	No	10	1033527507
250	50	140	Yes	Yes	10	1033527508
300	50	156	No	No	10	1033527509
500	50	175	Yes	Yes	10	1033527511
1000	50	220	No	No	10	1033527514

## ERLENMEYER FLASKS WITH GROUND SOCKET



CAP. (ml)	SOCKET	PACK (U.)	ART. NO.
25	14/23	10	073-100134
50	14/23	10	073-100135
50	29/32	10	073-113529
100	14/23	10	073-100136
100	19/26	10	073-100137
100	29/32	10	073-100138
250	14/23	10	073-100139
250	24/29	10	0731024140
250	29/32	10	073-100140
500	29/32	10	073-100142
1000	24/29	10	0731024144
1000	29/32	10	073-100144

## FLASKS: SPHERICAL FLASKS

### FLASKS, GROUND SOCKET, ROUND BOTTOM, SHORT NECK, CLEAR GLASS



CAP. (ml)	SOCKET	PACK (U.)	ART. NO.
10	14/23	10	073-100002
25	14/23	10	073-100003
50	14/23	10	073-100004
50	19/26	10	073-101904
100	14/23	10	073-100005
100	19/26	10	073-101905
100	24/29	10	073-102405
100	29/32	10	073-100006
250	14/23	10	073-100007
250	19/26	10	073-101907
250	24/29	10	073-102407
250	29/32	10	073-100008
500	19/26	10	073-101909
500	24/29	10	073-102409
500	29/32	10	073-100009
1000	24/29	10	073-102410
1000	29/32	10	073-100010
2000	29/32	10	073-100012

**FLASKS, GROUND SOCKET, ROUND BOTTOM, SHORT NECK, AMBER GLASS**



CAP. (ml)	SOCKET	PACK (U.)	ART. NO.
50	14/23	10	073A100004
100	14/23	10	073A100005
100	29/32	10	073A100006
250	14/23	10	073A100007
250	29/32	10	073A100008
500	29/32	10	073A100009
1000	29/32	10	073A100010

**SCHARLAU HEATING BLOCKS**

Made of anodised aluminium alloy, our range of heating blocks are able to heat round bottom flasks from 10 ml to 1 l on a stirring hotplate. The blocks are compatible with any stirring hotplate and can be placed anywhere on top of it.

The lateral hole allows block temperature measurement using a PT100 probe and the block bottom holes permit the release of fumes in case liquid should accidentally leak from the flask.

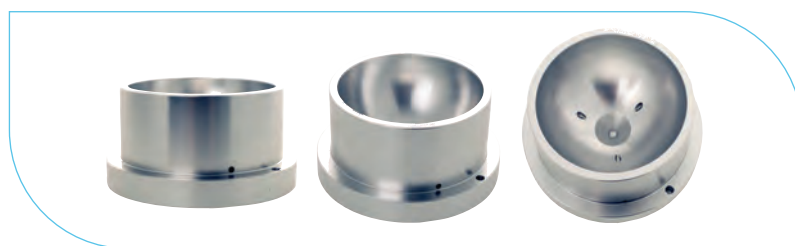
Save energy and money using our heating blocks. Oil should be replaced in order to maintain safe working conditions, which has an additional cost. On the other hand, the oil degrades over time and can produce toxic fumes. Replace oil baths and heating mantles increasing speed, clean-liness and safety.

**ALUMINIUM BLOCKS FOR USE ON TOP OF HOTPLATE**



Made of an anodised aluminium alloy. Suitable for heating round bottom flasks from 10 ml to 1 l on a hotplate stirrer. Compatible with any hotplate stirrer and can be placed anywhere on top of it. The lateral hole allows block temperature measurement using a PT100 probe. Block bottom holes allow the release of fumes in case liquid should accidentally leak from the flask. Replace oil baths and heating mantles increasing speed, cleanliness and safety.

DESCRIPTION	PACK (U.)	ART. NO.
Aluminium heating block for 10 ml flask	1	CAL-000010
Aluminium heating block for 25 ml flask	1	CAL-000025
Aluminium heating block for 50 ml flask	1	CAL-000050
Aluminium heating block for 100 ml flask	1	CAL-000100
Aluminium heating block for 250 ml flask	1	CAL-000250
Aluminium heating block for 500 ml flask	1	CAL-000500
Aluminium heating block for 1000 ml flask	1	CAL-001000



## FLASKS: PEAR SHAPED FLASKS

### PEAR SHAPED FLASKS, SINGLE NECK



CAPACITY (ml)	SOCKET	PACK (U.)	ART. NO.
5	14/23	1	073-125005
10	14/23	1	073-125010
25	14/23	1	073-000125
50	14/23	1	073-000126
100	14/23	1	073-000127
250	14/23	1	073-000128
250	29/32	1	073-000129

## FLASKS: EVAPORATING FLASKS

### PEAR-SHAPED EVAPORATING FLASKS



CAP. (ml)	SOCKET	EQUIV. BÜCHI	EQUIV. HEIDOLPH	PACK (U.)	ART. NO.
50	NS 29/32	000431	-	1	073-000053
100	NS 29/32	000432	514-71000-00	1	073-000054
250	NS 29/32	000433	514-72000-00	1	073-000055
500	NS 29/32	000434	514-73000-00	1	073-000056
1000	NS 29/32	000435	514-74000-00	1	073-000057
2000	NS 29/32	000436	514-75000-00	1	073-572000

### RECEIVING FLASKS, ROUND BOTTOM, SPHERICAL JOINT



CAP. (ml)	SOCKET	EQUIV. BÜCHI	EQUIV. HEIDOLPH	PACK (U.)	ART. NO.
500	S 35/20	000424	514-83000-00	1	073-000025
1000	S 35/20	000425	514-84000-00	1	073-000027
2000	S 35/20	000426	514-85000-00	1	073-102000
3000	S 35/20	000427	514-86000-00	1	073-103000

# FUNNELS

## FUNNELS

### FUNNELS SHORT STEM, BOROSILICATE GLASS



### FUNNELS FOR POWDERED PRODUCTS



Ø OUTER (mm)	Ø STEM (mm)	STEM LENGTH (mm)	PACK (U.)	ART. NO.
60	25	14	10	1033793307
70	30	16	10	1033793308
80	30	17	10	1033793309
100	35	22	10	1033793310

Borosilicate 3.3 glass. Opening angle 60°, fused edge. Flat inner surface.

Ø OUTER (mm)	Ø STEM (mm)	STEM LENGTH (mm)	PACK (U.)	ART. NO.
30	6	30	10	1033793101
35	6	35	10	1033793102
45	6	45	10	1033793104
50	8	50	10	1033793105
55	8	55	10	1033793106
60	8	60	10	1033793107
75	8	70	10	1033793108
80	8	80	10	1033793109
100	12	100	10	1033793110

### SEPARATING FUNNEL, CONICAL PTFE STOPCOCK, WITH STOPPER



CAP. (ml)	SOCKET	PACK (U.)	ART. NO.
50	19/26	1	073-000313
100	19/26	1	073-000314
250	29/32	1	073-000315
500	29/32	1	073-000316
1000	29/32	1	073-000317



# GLASSWARE FOR INERT ATMOSPHERE

## GLASSWARE FOR INERT ATMOSPHERE: SCHLENK FLASKS, TUBES AND FILTERS

### SCHLENK NITROGEN TUBES, GROUND SOCKET AND GLASS STOPCOCK



CAPACITY (ml)	SOCKET	PACK (U.)	ART. NO.
10	14/23	1	073-370113
25	14/23	1	073-370122
50	14/23	1	073-370128
100	14/23	1	073-370137
250	14/23	1	073-370149

### SCHLENK NITROGEN TUBES, GROUND CONE AND GLASS STOPCOCK



CAPACITY (ml)	CONE	PACK (U.)	ART. NO.
10	14/23	1	073-370213
25	14/23	1	073-370222
50	14/23	1	073-370228
100	14/23	1	073-370237
250	14/23	1	073-370249

# LABORATORY BOTTLES

## LABORATORY BOTTLES

### CLEAR LABORATORY BOTTLE



Clear borosilicate glass bottle, with GL45 thread, graduated, blue cap and pouring ring, ISO 4796. Made of borosilicate glass 3.3. The bottle, pouring ring and screw cap can be sterilised. \*It includes retrace code and double graduated scale.

CAP. (ml)	THREAD ISO	DOUBLE GRADUATED SCALE	RETRACE CODE	PACK (U.)	ART. NO.
100	GL45	Yes	Yes	10	2733799005
250	GL45	Yes	Yes	10	2733799006
500	GL45	Yes	Yes	10	2733799007
1000	GL45	Yes	Yes	10	2733799008

# OTHER PRODUCTS

## OTHER PRODUCTS

### GLASS PASTEUR PIPETTES



LENGTH (mm)	PACK (U.)	ART. NO.
160	250	073-001734
220	250	073-001735

### SODA GLASS PETRI DISHES



Ø (mm)	HEIGHT (mm)	PACK (U.)	ART. NO.
60	15	1	359-796001
80	15	1	359-796003
100	20	1	359-796006
150	25	1	359-796008
180	30	1	359-796009
200	30	1	359-796010

### HEXAGONAL GLASS STOPPERS



CONE	PACK (U.)	ART. NO.
7/16	10	073-10716
10/19	10	073-101043
12/21	10	073-101044
14/23	10	073-101045
19/26	10	073-101046
24/29	10	073-101047
29/32	10	073-101048
34/35	10	073-101049
45/40	10	073-101050

### HEXAGONAL POLYETHYLENE STOPPERS



CONE	PACK (U.)	ART. NO.
7/16	10	073-10716P
10/19	10	073-101064
12/21	10	073-101065
14/23	10	073-101066
19/26	10	073-101067
24/29	10	073-101068
29/32	10	073-101069
45/40	10	073-101075

# PYCNOMETERS

## PYCNOMETERS

### GAY-LUSSAC GLASS PYCNOMETERS



According to ISO 3507. Capacity adjustment recorded in the pycnometer. Conformity certified. Frosted plug 10/19 with capillary. 3.3 borosilicate glass material.

CAP. (ml)	PACK (U.)	ART. NO.
10	1	073-000986
25	1	073-000987
50	1	073-000988
100	1	073-000989

### RENAULT GLASS PYCNOMETERS FOR SOLIDS



CAP. (ml)	GROUND JOINTS	PACK (U.)	ART. NO.
10	12/21	1	073-000990
25	14/23	1	073-000991
50	14/15	1	073-000992
100	19/15	1	073-000993

# SOXHLET EXTRACTORS

## SOXHLET EXTRACTORS

### COMPLETE SOXHLET EXTRACTOR OF 125 ml



DESCRIPTION	CONE	SOCKET	PACK (U.)	ART. NO.
Complete	-	-	1	073-000729
Extractor piece 125 ml	29/32	45/40	1	073-000730
Dimroth condenser 200 mm useable height	45/40	-	1	073-000479
Flat bottom flask 250 ml	-	29/32	1	073-000042

See **cellulose extraction thimbles** in **CONSUMABLES**.





## COMPLETE SOXHLET EXTRACTOR OF 250 ml



DESCRIPTION	CONE	SOCKET	PACK (U.)	ART. NO.
Complete	-	-	1	073-000731
Extractor piece 250 ml	29/32	55/44	1	073-000732
Dimroth condenser 200 mm useable height	55/44	-	1	073-000480
Flat bottom flask 500 ml	-	29/32	1	073-000043

## FILTER CRUCIBLES WITH SINTERED DISK POROSITY 2



DESCRIPTION	Ø EXT.XH (mm)	CAP. (ml)	PACK (U.)	ART. NO.
Filter crucibles 50 ml	24x70	20	1	073-000733
Filter crucibles 125 ml	40x90	75	1	073-000734
Filter crucibles 250 ml	44x130	170	1	073-000735



# VOLUMETRIC MATERIAL

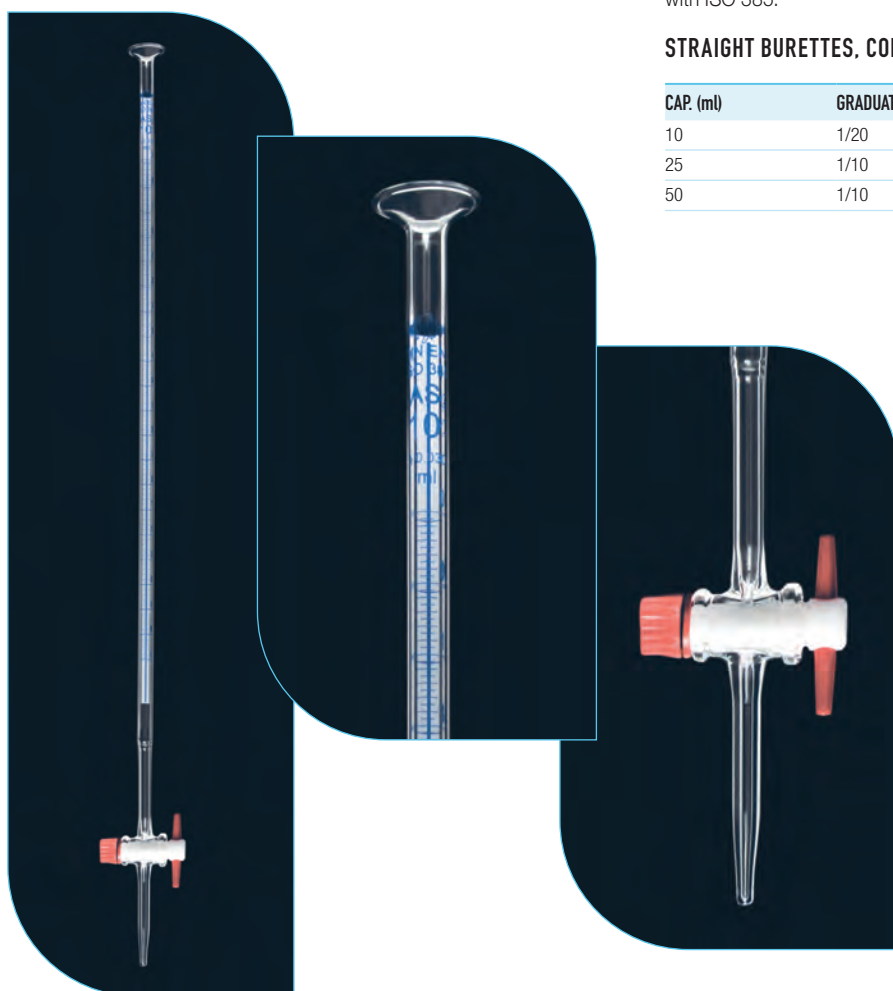
## VOLUMETRIC MATERIAL: BURETTES

### GLASS BURETTES

Scharlau burettes are all class AS and each one is provided with a calibration certificate and serial number. Its marking is indelible and all variants exist also in amber glass. With Schellbach stripe for readability. They conform with ISO 385.

#### STRAIGHT BURETTES, CONICAL PTFE STOPCOCK

CAP. (ml)	GRADUATION (ml)	PACK (U.)	ART. NO.
10	1/20	4	273-001520
25	1/10	4	273-001521
50	1/10	4	273-001522



## VOLUMETRIC MATERIAL: FLASKS

**VOLUMETRIC FLASKS, BOROSILICATE GLASS, CLASS A, PE STOPPER, SERIAL NUMBER AND CONFORMITY CERTIFIED**



Borosilicate glass 3.3. Blue tinted. Lot number. Complies with norm ISO 1042.

CAP. (ml)	SOCKET	TOL. ± (ml)	PACK (U.)	ART. NO.
5	10/19	0,025	8	273-001629
10	10/19	0,025	8	273-001630
20	10/19	0,04	8	2732163120
25	12/21	0,04	8	273-201631
50	12/21	0,06	8	273-201632
100	14/23	0,10	8	273-201633
200	14/23	0,15	8	273-201634
250	14/23	0,15	8	273-201635
500	19/26	0,25	8	273-201636
1000	24/29	0,40	8	273-201637
2000	29/32	0,60	8	273-001638

**VOLUMETRIC FLASKS, AMBER GLASS, CLASS A, PE STOPPER, SERIAL NUMBER AND CONFORMITY CERTIFIED**



Borosilicate glass 3.3. White coated. Lot number. Complies with norm ISO 1042. Amber glass.

CAPACITY (ml)	SOCKET	TOL. ± (ml)	PACK (U.)	ART. NO.
5	10/19	0,025	8	273A001629
10	10/19	0,025	8	273A001630
20	10/19	0,04	8	273A163120
25	12/21	0,04	8	273A201631
50	12/21	0,06	8	273A201632
100	14/23	0,10	8	273A201633
200	14/23	0,15	8	273A201634
250	14/23	0,15	8	273A201635
500	19/26	0,25	8	273A201636
1000	24/29	0,40	8	273A201637
2000	29/32	0,60	8	273A001638

Prevent laboratory mistakes and the contamination of mixed samples. Easy identification samples or flasks in shared laboratories. Available in 4 colours: red, green, blue and yellow. Resistant to usual laboratory cleaning.

## VOLUMETRIC FLASKS WITH COLOURED NECK, CLASS A, WITH PE STOPPER, LOT NUMBER AND CONFORMITY CERTIFICATE



### VOLUMETRIC FLASKS RED COLOUR

CAPACITY (ml)	SOCKET	COLOUR	TOL. ± (ml)	PACK (U.)	ART. NO.
10	10/19	Red	0,025	8	273D001630
20	10/19	Red	0,04	8	273D263120
25	12/21	Red	0,04	8	273D201631
50	12/21	Red	0,06	8	273D201632
100	14/23	Red	0,10	8	273D201633
200	14/23	Red	0,15	8	273D201634
250	14/23	Red	0,15	8	273D201635
500	19/26	Red	0,25	8	273D201636
1000	24/29	Red	0,40	8	273D201637

### VOLUMETRIC FLASKS GREEN COLOUR

CAPACITY (ml)	SOCKET	COLOUR	TOL ± (ml)	PACK (U.)	ART. NO.
10	10/19	Green	0,025	8	273N001630
20	10/19	Green	0,04	8	273N263120
25	12/21	Green	0,04	8	273N201631
50	12/21	Green	0,06	8	273N201632
100	14/23	Green	0,10	8	273N201633
200	14/23	Green	0,15	8	273N201634
250	14/23	Green	0,15	8	273N201635
500	19/26	Green	0,25	8	273N201636
1000	24/29	Green	0,40	8	273N201637

### VOLUMETRIC FLASKS BLUE COLOUR

CAPACITY (ml)	SOCKET	COLOUR	TOL. ± (ml)	PACK (U.)	ART. NO.
10	10/19	Blue	0,025	8	273E001630
20	10/19	Blue	0,04	8	273E263120
25	12/21	Blue	0,04	8	273E201631
50	12/21	Blue	0,06	8	273E201632
100	14/23	Blue	0,10	8	273E201633
200	14/23	Blue	0,15	8	273E201634
250	14/23	Blue	0,15	8	273E201635
500	19/26	Blue	0,25	8	273E201636
1000	24/29	Blue	0,40	8	273E201637

### VOLUMETRIC FLASKS YELLOW COLOUR

CAPACITY (ml)	SOCKET	COLOUR	TOL. ± (ml)	PACK (U.)	ART. NO.
10	10/19	Yellow	0,025	8	273W001630
20	10/19	Yellow	0,04	8	273W263120
25	12/21	Yellow	0,04	8	273W201631
50	12/21	Yellow	0,06	8	273W201632
100	14/23	Yellow	0,10	8	273W201633
200	14/23	Yellow	0,15	8	273W201634
250	14/23	Yellow	0,15	8	273W201635
500	19/26	Yellow	0,25	8	273W201636
1000	24/29	Yellow	0,40	8	273W201637



## VOLUMETRIC MATERIAL: PIPETTES

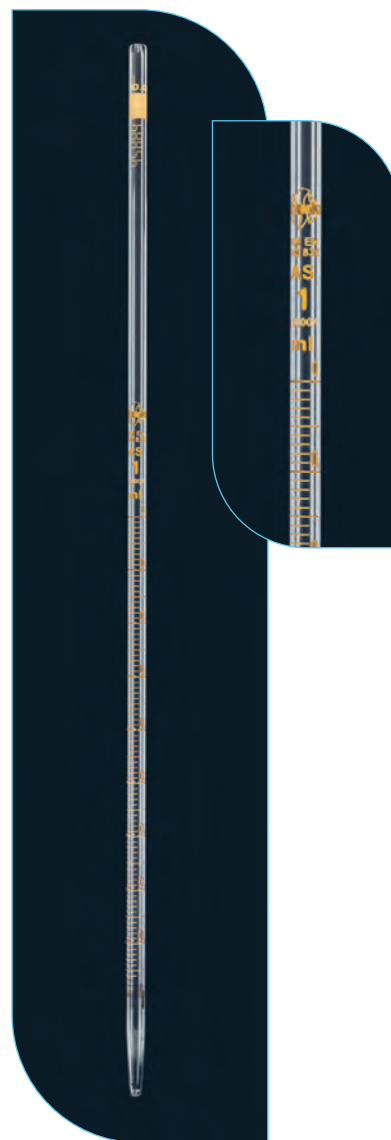
VOLUMETRIC PIPETTES,  
ONE MARK, CLASS AS,  
SERIALIZED AND CERTIFIED,  
SODA-LIME GLASS



VOLUMETRIC PIPETTES,  
TWO MARKS, CLASS AS,  
SERIALIZED AND CERTIFIED,  
SODA-LIME GLASS



GRADUATED PIPETTE,  
CLASS AS, TYPE 3,  
TOTAL DELIVERY, SERIALIZED  
AND CERTIFIED ISO 835



CAP. (ml)	TOL ± (ml)	PACK (U.)	ART. NO.
1	0,008	10	273-991676
2	0,01	10	273-991677
5	0,015	10	273-991678
10	0,02	10	273-991679
20	0,03	10	273-991681
25	0,03	10	273-991682
50	0,05	10	273-991683

CAP. (ml)	TOL ± (ml)	PACK (U.)	ART. NO.
1	0,008	10	273-991696
2	0,01	10	273-991697
5	0,015	10	273-991698
10	0,02	10	273-991699
20	0,03	10	273-991701
25	0,03	10	273-991702
50	0,05	10	273-991703

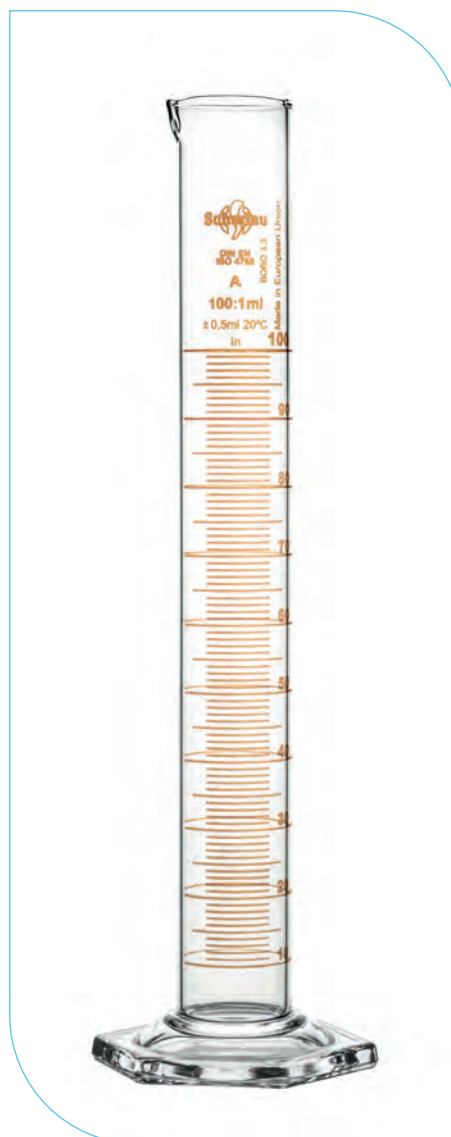
CAP. (ml)	DIVISION (ml)	TOL ± (ml)	PACK (U.)	ART. NO.
0,5	0,01	0,006	10	273-991305
1	0,01	0,007	10	273-991715
2	0,02	0,01	10	273-991717
5	0,05	0,03	10	273-991719
10	0,1	0,05	10	273-991720
25	0,1	0,1	10	273-991721

## VOLUMETRIC MATERIAL: GRADUATED CYLINDERS

**BOROSILICATE GLASS GRADUATED CYLINDERS, CLASS A, HEXAGONAL BASE, WITH POUR SPOUT, SERIALIZED AND CERTIFIED ISO 4788**



**BOROSILICATE GLASS GRADUATED CYLINDERS, AMBER PRINTED. CLASS A, HEXAGONAL BASE, WITH POUR SPOUT, SERIALIZED AND CERTIFIED ISO 4788**



CAP. (ml)	DIVISION (ml)	TOLERANCE ± (ml)	COLOUR GRAD.	PACK (U.)	ART. NO.
10	1/5	0,10	Blue	8	273-201750
25	1/2	0,25	Blue	8	273-201751
50	1/1	0,5	Blue	8	273-201752
100	1/1	0,5	Blue	8	273-201753
250	2/1	1	Blue	8	273-201754
500	5/1	2,5	Blue	8	273-001755
1000	10/1	5	Blue	8	273-001756
2000	20/1	10	Blue	8	273-001757

CAP. (ml)	DIVISION (ml)	TOLERANCE ± (ml)	COLOUR GRAD.	PACK (U.)	ART. NO.
10	1/5	0,10	Amber	8	273-201743
25	1/2	0,25	Amber	8	273-201744
50	1/1	0,5	Amber	8	273-201745
100	1/1	0,5	Amber	8	273-201746
250	2/1	1	Amber	8	273-201747
500	5/1	2,5	Amber	8	273-001748
1000	10/1	5	Amber	8	273-001749

# WEIGHING ELEMENTS

## WEIGHING ELEMENTS

### WATCH GLASSES, SODA, FUSED EDGES, DIN 12431



Ø (mm)	PACK (U.)	ART. NO.
40	10	0381182040
50	10	0381182050
60	10	0381182060
70	10	0381182070
80	10	0381182080
100	10	0381182100
120	10	0381182120
150	10	0381182150
200	10	0381182200

### WEIGHING BOTTLES INTERNAL LID



Borosilicate glass 3.3. Column Dim. ØxH (mm) refers to complete weighing bottle dimensions.

DESCRIPTION	DIM. ØxH (mm)	PACK (U.)	ART. NO.
Complete	28x30	1	073-000829
Interchangeable lid. Male: 29/10	28x30	1	073-000830
Body, 35 mm length. Female: 29/10	28x30	1	073-000831
Complete	44x40	1	073-000832
Interchangeable lid. Male: 40/12	44x40	1	073-000833
Body, 40 mm length. Female: 40/12	44x40	1	073-000834
Complete	50x40	1	073-000835
Interchangeable lid. Male: 45/12	50x40	1	073-000836
Body, 40 mm length. Female: 45/12	50x40	1	073-000837
Complete	60x40	1	073-000838
Interchangeable lid. Male: 55/12	60x40	1	073-000839
Body, 40 mm length. Female: 55/12	60x40	1	073-000840

### WEIGHING FUNNELS



CAP. (ml)	Ø STEM (mm)	PACK (U.)	ART. NO.
1	6	1	073-008531
3	7	1	073-000853
6	10	1	073-000854
10	12	1	073-000855
20	12	1	073-008520
50	12	1	073-085550



# SCHARLAU PREMIUM MINIREACTORS

## SCHARLAU PREMIUM MINIREACTORS

Scharlau premium minireactors are indicated for liquid phase synthesis and are the best choice for research applications as well as for education.

Made of borosilicate glass 3.3, some of the most remarkable features are:

- Color touch screen
- Control unit allows to preset up to 10 programs of 6 segment each one, where temperature gradient and stirring could be controlled
- USB port for data dump
- Stirring seal with motor quick coupling and electronic regulation of velocity for the automatic maintaining of it despite of changes of charge or viscosity
- Standard glass lid of 5 mouths, totally customizable. Free grease closure system based on a FEP/silicone o-ring with a centering PTFE ring
- All the materials are inert and resistant (glass, PTFE, Hastelloy®)

We currently have 2 different models:

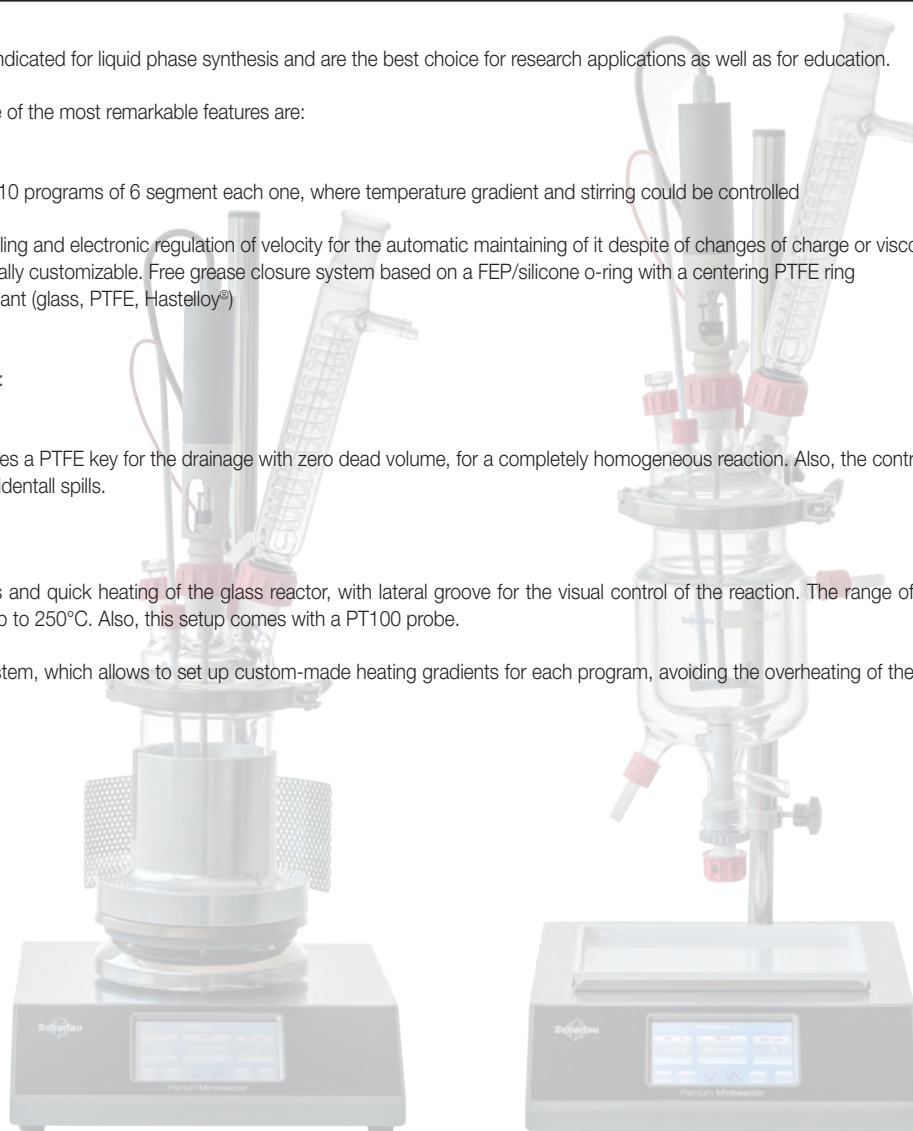
### Premium Minireactor MR

Our jacketed minireactors incorporates a PTFE key for the drainage with zero dead volume, for a completely homogeneous reaction. Also, the controller unit comes with a safety drip tray for accidental spills.

### Premium Minireactor HME-R

Aluminum block for a homogeneous and quick heating of the glass reactor, with lateral groove for the visual control of the reaction. The range of work of heating plate range between 15°C up to 250°C. Also, this setup comes with a PT100 probe.

Another feature is the autotuning system, which allows to set up custom-made heating gradients for each program, avoiding the overheating of the solution during the reaction.



## COMPACT PREMIUM MINIREACTORS FOR SYNTHESIS IN LIQUID PHASE WITH MECHANICAL STIRRING AND ELECTRICAL HEATING



Aluminium block for fast, homogenous heating with groove for internal visibility.  
 Electrical heating from +15 to 250°C with PT100 sensor.  
 Reaction vessels from 50 ml to 2 litres.  
 Mechanical stirring.  
 Stirrer bearing with quick motor coupling.  
 Maintains exact speed under changing loads or viscosity.  
 Heavy-duty stainless-steel telescopic stand.  
 Standard 5 neck glass lid customizable on request.  
 FEP encapsulated silicone O-ring, grease free, with self-centering PTFE collar.  
 Inert and chemical resistant materials in contact with the reaction product (Glass, PTFE, Hastelloy® stirring shaft).  
 Easy internal access.  
 Quick release tool-free vessel clamp made of stainless steel.  
 USB port for datalogging.  
 Colour touch screen.  
 Autotuning function.

### Technical specifications:

- Temperature range: ambient +15°C to 250°C (0,5 °C intervals)
- Power: 800 W (hotplate) and 50 W (stirrer)
- Stirring speed range: 100 to 700 rpm\* controlled by microprocessor (25 rpm intervals)
- Up to 10 programs of 6 segments (Temperature, speed and time)
- Pressure range: from 5mb to 0,7 bar overpressure
- Colour touch screen with real-time temperature and stirring graphics
- Overheating protection: automatic safety shutdown
- USB port for datalogging
- Dimensions: 276x315 mm
- Minimum height: 635 mm (885 mm for 5 l minireactor)
- Maximum height: 935 mm (1150 mm for 5 l minireactor)
- Power supply: 220 V, 50-60 Hz

\* Available lower speed range on request (1-400 rpm).

**NOTE:** The condenser is exclusively used as a photo prop and is not included in the minireactor set up.

DESCRIPTION	Ø JOINT (")	PACK (U.)	ART. NO.
Premium minireactor with mechanical stirring and heating of 50 ml	2,5	1	PHMER00/50
Premium minireactor with mechanical stirring and heating of 100 ml	2,5	1	PHMER0/100
Premium minireactor with mechanical stirring and heating of 250 ml	3	1	PHMER0/250
Premium minireactor with mechanical stirring and heating of 500 ml	3	1	PHMER/5003
Premium minireactor with mechanical stirring and heating of 500 ml	4	1	PHMER/5004
Premium minireactor with mechanical stirring and heating of 1000 ml	4	1	PHMER/1000
Premium minireactor with mechanical stirring and heating of 2000 ml	4	1	PHMER/2000



## PREMIUM MINIREACTOR WITH MECHANICAL STIRRING AND JACKETED REACTION VESSEL



Jacketed reaction vessels from 50 ml to 2 litres.  
 Temperature control through external equipment (heating or cooling).  
 Stirring speed and time settings.  
 Zero dead space drain PTFE stopcock.  
 Safety drip tray for accidental spills.  
 Mechanical stirring:  
 Stirrer bearing with quick motor coupling.  
 It maintains exact speed under changing loads or viscosity.  
 Heavy-duty stainless-steel telescopic stand.  
 Standard 5 neck glass lid customisable on request.  
 FEP encapsulated silicone O-ring, grease free, with self-centering PTFE collar.  
 Inert and chemical resistant materials in contact with the reaction product (Glass, PTFE, Hastelloy® stirring shaft).  
 Easy internal access.  
 Quick release tool-free vessel clamp made of stainless steel.  
 USB port for datalogging.  
 Colour touch screen.  
 Autotuning function.

### Technical specifications:

- Temperature range: depending on the circulating bath to which it is connected
- Power: 50 W (stirrer)
- Stirring speed range: 100 to 700 rpm\* controlled by microprocessor (25 rpm intervals)
- Up to 10 programs of 6 segments (Speed and time). Temperature: only register
- Pressure range: from 5 MB to 0,7 bar overpressure
- Colour touch screen with real-time temperature and stirring graphics
- Overheating protection: automatic safety shutdown
- USB port for datalogging
- Dimensions: 276x315 mm
- Minimum height: 635 mm (885 mm for 5 l minireactor)
- Maximum height: 935 mm (1150 mm for 5 l minireactor)
- Power supply: 220 V, 50-60 Hz

\* Available lower speed range on request (1-400 rpm).

\*\* This model does not include temperature probe.

**NOTE:** The condenser is exclusively used as a photo prop and is not included in the minireactor set up.

DESCRIPTION	Ø JOINT (")	PACK (U.)	ART. NO.
Premium minireactor with mechanical stirring and jacketed reaction vessel of 50 ml	2,5	1	PMR000/50
Premium minireactor with mechanical stirring and jacketed reaction vessel of 100 ml	2,5	1	PMR000/100
Premium minireactor with mechanical stirring and jacketed reaction vessel of 250 ml	3	1	PMR000/250
Premium minireactor with mechanical stirring and jacketed reaction vessel of 500 ml	3	1	PMR00/5003
Premium minireactor with mechanical stirring and jacketed reaction vessel of 500 ml	4	1	PMR00/5004
Premium minireactor with mechanical stirring and jacketed reaction vessel of 1000 ml	4	1	PMR00/1000
Premium minireactor with mechanical stirring and jacketed reaction vessel of 2000 ml	4	1	PMR00/2000



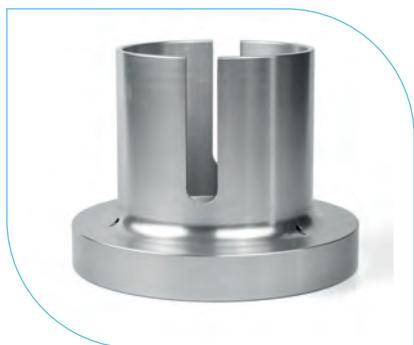
## COMPONENTS FOR PREMIUM COMPACT MINIREACTOR VESSELS

### COMMON COMPONENTS FOR PREMIUM MINIREACTORS



DESCRIPTION	PACK (U.)	REFERENCIA
Mechanical stirrer with aluminium case and 2 mts cable (40 - 400 rpm)	1	50PMRMOT52
Mechanical stirrer with aluminium case and 2 mts cable (100 - 700 rpm)	1	50PMRMOT53
Control panel with touch screen and protection tray for splashes	1	500-00PMR1
Control panel with touch screen and heating plate	1	500-0PHMER
Stainless Steel traction piece for stirring shaft	1	0ARRASMINI
Temperature probe Pt100 with 3 pins connector	1	00PMRPT100
Telescopic stand 25 mm Ø	1	500TUBTELE
Telescopic stand 25 mm Ø. Longer version	1	50GTUBTELE

### ALUMINIUM HEATING BLOCKS FOR PREMIUM REACTORS



DESCRIPTION	PACK (U.)	REFERENCIA
Aluminium heating block for 50 ml reactor	1	50PMRCAL50
Aluminium heating block for 100 ml reactor	1	5PMRCAL100
Aluminium heating block for 250 ml reactor	1	5PMRCAL250
Aluminium heating block for 500 ml reactor	1	5PMRCAL500
Aluminium heating block for 1000 ml reactor	1	PMRCAL1000
Aluminium heating block for 2000 ml reactor	1	PMRCAL2000

### GLASS REACTION VESSELS



DESCRIPTION	PACK (U.)	REFERENCIA
Glass reaction vessel 50 ml with joint 2"1/2	1	500-0MRR50
Glass reaction vessel 100 ml with joint 2"1/2	1	500-MRR100
Glass reaction vessel 250 ml with joint 3"	1	500-MRR250
Glass reaction vessel 500 ml with joint 3"	1	500MRR5003
Glass reaction vessel 500 ml with joint 4"	1	500MRR5004
Glass reaction vessel 1000 ml with joint 4"	1	50MRR10004
Glass reaction vessel 2000 ml with joint 4"	1	50MRR20004

### GLASS REACTION VESSELS JACKETED WITH DRAIN VALVE



DESCRIPTION	PACK (U.)	REFERENCIA
Glass reaction vessel jacketed with drain valve 50 ml	1	500MRRTD50
Glass reaction vessel jacketed with drain valve 100 ml	1	BRMRRTD100
Glass reaction vessel jacketed with drain valve 250 ml	1	BRMRRTD250
Glass reaction vessel jacketed with drain valve 500 ml with joint 3"	1	5MRRTD5003
Glass reaction vessel jacketed with drain valve 500 ml with joint 4"	1	5MRRTD5004
Glass reaction vessel jacketed with drain valve 1000 ml with joint 4"	1	5MRRTD1000
Glass reaction vessel jacketed with drain valve 2000 ml with joint 4"	1	5MRRTD2000



### GLASS LIDS WITH 5 NECKS



DESCRIPTION	PACK (U.)	REFERENCIA
Flange lid 2"1/2 with 5 necks	1	500-0MRT25
Flange lid 3" with 5 necks	1	500-00MRT3
Flange lid 4" with 5 necks C-SAV-29 (Rodaviss)	1	500-00MRT4

### O-RING MADE OF SILICONE AND PTFE



DESCRIPTION	PACK (U.)	REFERENCIA
O-ring 2" 1/2 made of silicone and PTFE	1	500-0MRJ25
O-ring 3" made of silicone and PTFE	1	500-00MRJ3
O-ring 4" made of silicone and PTFE	1	500-00MRJ4

### STIRRER BEARING FOR PREMIUM MINIREACTORS



DESCRIPTION	PACK (U.)	REFERENCIA
PEEK stirrer bearing for shaft 6 mm Ø and NS 14,5	1	CIAGPEEK14
PEEK stirrer bearing for shaft 6 mm Ø and NS 29	1	CIAGPEEK29

### STIRRING SHAFT ANCHOR SHAPED MADE OF HASTELLOY® FOR PREMIUM MINIREACTORS



DESCRIPTION	PACK (U.)	REFERENCIA
Hastelloy® stirring shaft for reaction vessel 50/100 ml with coupling	1	500-PMRA50
Hastelloy® stirring shaft for reaction vessel 250/500 ml with coupling	1	500PMRA250
Hastelloy® stirring shaft for reaction vessel 500/1000 ml with coupling	1	500PMRA500
Hastelloy® stirring shaft for reaction vessel 2000 ml with coupling	1	50PMRA2000

### FLANGE CLOSURE AND SUPPORTING DEVICE MADE OF STAINLESS STEEL



DESCRIPTION	PACK (U.)	REFERENCIA
Flange closure and supporting device for 2"1/2	1	500-0MRS25
Flange closure and supporting device for 3"	1	500-00MRS3
Flange closure and supporting device for 4"	1	500-00MRS4

# CONSUMABLES

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# CONTAINERS AND FLASKS

## CONTAINERS AND FLASKS

### CYLINDRICAL FLASKS (DUCHESS TYPE)



Duchess type flasks, cylindrical with wide neck, translucent white, made of high density polyethylene. For the collection, conservation and storage of samples. With black screw cap and translucent pressure shutter to ensure airtightness and product conservation.

CAP. (ml)	MOUTH Ø (mm)	Ø x H (mm)	PACK (U.)	ART. NO.
60	46	57x45	500	DUQ0000060
100	46	59x60	350	DUQ0000100
125	46	59x70	300	DUQ0000125
250	51	67x98	280	DUQ0000250
500	62	80x112	160	DUQ0000500
1000	86	102x151	90	DUQ0001000
2000	86	118x227	64	DUQ0002000

### THREADED CONTAINERS FOR SAMPLES

PP urine containers with PE cap. Writing surface on the side. Wide thermal and chemical resistance. The sterile models have been irradiated and are supplied in an individual bag. Two capacities available. The code PUC1501000, is delivered with the cap without threading.



PSC0603000



PSC0603001



PUC1501000



PUC1501001

DESCRIPTION	CAP. (ml)	EXT. DIM. Ø x H (mm)	STERILE	PACK (U.)	ART. NO.
With assembled cap	60	38x65	No	600	PSC0603000
Sterile with assembled cap	60	38x65	Yes	400	PSC0603001
With separate cap	150	58x72	No	500	PUC1501000
Sterile with assembled cap	150	58x72	Yes	250	PUC1501001



## DISPENSATION

### DISPENSERS



Economical, resistant dispensers, easy to adjust volume and dosing accuracy thanks to an optimised pump system. Compatible with practically all solvents and acids.

Exceptions: solutions containing hydrofluoric acid, crystallising solutions containing or forming solid materials.

Resistant to autoclave sterilisation at 121°C. Suitable for acids and bases. Removable for easy cleaning. Supplied with calibration certificate, 3 PP adapters, tube, a tool to facilitate assembly and disassembly of the dispenser and the operations manual.

RANGE (ml)	SUBDIVISIONS (ml)	INACCURACY (vk)	IMPRECISION (cv)	GL THREAD	ADAPTER GL	PACK (U.)	ART. NO.
0,25 to 2,5	0,05	±0,6 %	≤0,1 %	32	28, 40, 45	1	033-065.01
0,5 to 5	0,10	±0,5 %	≤0,1 %	32	28, 40, 45	1	033-065.02
1 to 10	0,20	±0,5 %	≤0,1 %	32	28, 40, 45	1	033-065.03
2,5 to 25	0,50	±0,5 %	≤0,1 %	45	32, 38, 38/32	1	033-065.04
5 to 50	1,00	±0,5 %	≤0,1 %	45	32, 38, 38/32	1	033-065.05

# FILTRATION

Qualitative and quantitative filter paper PAGE 666  
 Glass microfibre and quartz microfibre filters PAGE 674  
 Soxhlet cellulose extraction thimbles PAGE 675  
 Reams PAGE 676  
 Membranes PAGE 677  
 Syringe filters PAGE 678

## FILTRATION: QUALITATIVE AND QUANTITATIVE FILTER PAPER

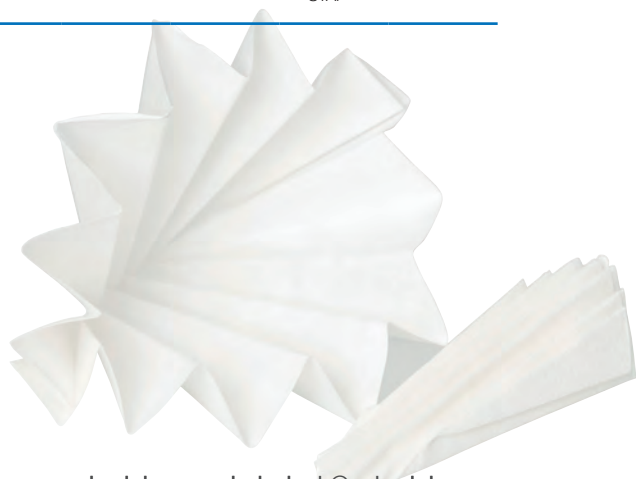
Filtration is a common technique in laboratories and widely used in many analytical processes. In areas such as the food and beverage industry, pharmaceutical industry, chemical industry, environmental monitoring, water monitoring and research, filtration plays an important role.

The Scharlau range of laboratory filters consists of high quality products using only the best new materials. Our line of filters is comprised of laboratory quantitative and qualitative filters papers, reams, extraction thimbles, quartz microfibre filters and glass microfibre filters, syringe filters, membranes filters for mobile phase and membrane filters for microbiology. The lot number is detailed on the boxes containing our filters.

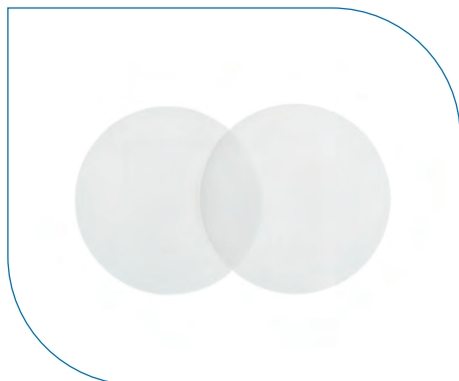
The certificate of conformity is available on request.

The table here below is a guide to the filtration rates of our filter papers:

		FILTRATION SPEED							
TYPE OF PAPER		VERY-SLOW FILTRATION	SLOW FILTRATION	MEDIUM FILTRATION		FAST FILTRATION	VERY-FAST FILTRATION		
QUANTITATIVE	Quantitative ashless	WAT	WAS	WAP	WAM	WAG	WAF	WAE	
	Quantitative ashless hardened		WASH		WAMH		WAFH		
	Qualitative analytical grade	LAS	LAP	LAT	LAM	LAG	LAF		
QUALITATIVE	Qualitative general use				STAM		STAE	STAR	
	Qualitative general use creped						STAF		



## QUANTITATIVE ASHLESS FILTER PAPERS



Filter papers for quantitative and gravimetric analysis and titration. Maximum cellulose purity, washed with acid and ashes content below 0,01%.

### WAFH GRADE, 85 g/m<sup>2</sup>, FAST FILTRATION, HARDENED. SCHARLAU

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	25-30	Disc	100	CFIWAFH047
50	25-30	Disc	100	CFIWAFH050
55	25-30	Disc	100	CFIWAFH055
70	25-30	Disc	100	CFIWAFH070
90	25-30	Disc	100	CFIWAFH090
110	25-30	Disc	100	CFIWAFH110
125	25-30	Disc	100	CFIWAFH125
150	25-30	Disc	100	CFIWAFH150
185	25-30	Disc	100	CFIWAFH185
240	25-30	Disc	100	CFIWAFH240
110	25-30	Folded	100	CF2WAFH110
125	25-30	Folded	100	CF2WAFH125
150	25-30	Folded	100	CF2WAFH150
185	25-30	Folded	100	CF2WAFH185
240	25-30	Folded	100	CF2WAFH240
270	25-30	Folded	100	CF2WAFH270

### WAMH GRADE, 85 g/m<sup>2</sup>, MEDIUM TO SLOW FILTRATION, HARDENED. SCHARLAU

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	15-17	Disc	100	CFIWAMH047
50	15-17	Disc	100	CFIWAMH050
55	15-17	Disc	100	CFIWAMH055
70	15-17	Disc	100	CFIWAMH070
90	15-17	Disc	100	CFIWAMH090
110	15-17	Disc	100	CFIWAMH110
125	15-17	Disc	100	CFIWAMH125
150	15-17	Disc	100	CFIWAMH150
185	15-17	Disc	100	CFIWAMH185
240	15-17	Disc	100	CFIWAMH240
110	15-17	Folded	100	CF2WAMH110
125	15-17	Folded	100	CF2WAMH125
150	15-17	Folded	100	CF2WAMH150
185	15-17	Folded	100	CF2WAMH185
240	15-17	Folded	100	CF2WAMH240
270	15-17	Folded	100	CF2WAMH270

### WASH GRADE, 85 g/m<sup>2</sup>, VERY SLOW FILTRATION, HARDENED. SCHARLAU

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	2-4	Disc	100	CFIWASH047
50	2-4	Disc	100	CFIWASH050
55	2-4	Disc	100	CFIWASH055
70	2-4	Disc	100	CFIWASH070
90	2-4	Disc	100	CFIWASH090
110	2-4	Disc	100	CFIWASH110
125	2-4	Disc	100	CFIWASH125
150	2-4	Disc	100	CFIWASH150
185	2-4	Disc	100	CFIWASH185
240	2-4	Disc	100	CFIWASH240
110	2-4	Folded	100	CF2WASH110
125	2-4	Folded	100	CF2WASH125
150	2-4	Folded	100	CF2WASH150
185	2-4	Folded	100	CF2WASH185
240	2-4	Folded	100	CF2WASH240
270	2-4	Folded	100	CF2WASH270

**WAE GRADE, 85 g/m<sup>2</sup>, EXTRA-FAST FILTRATION. SCHARLAU**

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	25-35	Disc	100	CFIWAE0047
50	25-35	Disc	100	CFIWAE0050
55	25-35	Disc	100	CFIWAE0055
70	25-35	Disc	100	CFIWAE0070
90	25-35	Disc	100	CFIWAE0090
110	25-35	Disc	100	CFIWAE0110
125	25-35	Disc	100	CFIWAE0125
150	25-35	Disc	100	CFIWAE0150
185	25-35	Disc	100	CFIWAE0185
240	25-35	Disc	100	CFIWAE0240
320	25-35	Disc	100	CFIWAE0320
110	25-35	Folded	100	CF2WAE0110
125	25-35	Folded	100	CF2WAE0125
150	25-35	Folded	100	CF2WAE0150
185	25-35	Folded	100	CF2WAE0185
240	25-35	Folded	100	CF2WAE0240
270	25-35	Folded	100	CF2WAE0270

**WAF GRADE, 85 g/m<sup>2</sup>, FAST FILTRATION. SCHARLAU**

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	25-30	Disc	100	CFIWAF0047
50	25-30	Disc	100	CFIWAF0050
55	25-30	Disc	100	CFIWAF0055
70	25-30	Disc	100	CFIWAF0070
90	25-30	Disc	100	CFIWAF0090
110	25-30	Disc	100	CFIWAF0110
125	25-30	Disc	100	CFIWAF0125
150	25-30	Disc	100	CFIWAF0150
185	25-30	Disc	100	CFIWAF0185
240	25-30	Disc	100	CFIWAF0240
110	25-30	Folded	100	CF2WAF0110
125	25-30	Folded	100	CF2WAF0125
150	25-30	Folded	100	CF2WAF0150
185	25-30	Folded	100	CF2WAF0185
240	25-30	Folded	100	CF2WAF0240
270	25-30	Folded	100	CF2WAF0270

**WAG GRADE, 85 g/m<sup>2</sup>, FAST FILTRATION. SCHARLAU**

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	20-25	Disc	100	CFIWAG0047
50	20-25	Disc	100	CFIWAG0050
55	20-25	Disc	100	CFIWAG0055
70	20-25	Disc	100	CFIWAG0070
90	20-25	Disc	100	CFIWAG0090
110	20-25	Disc	100	CFIWAG0110
125	20-25	Disc	100	CFIWAG0125
150	20-25	Disc	100	CFIWAG0150
185	20-25	Disc	100	CFIWAG0185
240	20-25	Disc	100	CFIWAG0240
320	20-25	Disc	100	CFIWAG0320
110	20-25	Folded	100	CF2WAG0110
125	20-25	Folded	100	CF2WAG0125
150	20-25	Folded	100	CF2WAG0150
185	20-25	Folded	100	CF2WAG0185
240	20-25	Folded	100	CF2WAG0240
270	20-25	Folded	100	CF2WAG0270
320	20-25	Folded	100	CF2WAG0320

### WAM GRADE, 85 g/m<sup>2</sup>, MEDIUM TO SLOW FILTRATION. SCHARLAU

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	14-18	Disc	100	CFIWAM0047
50	14-18	Disc	100	CFIWAM0050
55	14-18	Disc	100	CFIWAM0055
70	14-18	Disc	100	CFIWAM0070
90	14-18	Disc	100	CFIWAM0090
110	14-18	Disc	100	CFIWAM0110
125	14-18	Disc	100	CFIWAM0125
150	14-18	Disc	100	CFIWAM0150
185	14-18	Disc	100	CFIWAM0185
240	14-18	Disc	100	CFIWAM0240
110	14-18	Folded	100	CF2WAM0110
125	14-18	Folded	100	CF2WAM0125
150	14-18	Folded	100	CF2WAM0150
185	14-18	Folded	100	CF2WAM0185
240	14-18	Folded	100	CF2WAM0240
270	14-18	Folded	100	CF2WAM0270
320	14-18	Folded	100	CF2WAM0320

### WAP GRADE, 70 g/m<sup>2</sup>, MEDIUM TO SLOW FILTRATION. SCHARLAU

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	7-9	Disc	100	CFIWAP0047
50	7-9	Disc	100	CFIWAP0050
55	7-9	Disc	100	CFIWAP0055
70	7-9	Disc	100	CFIWAP0070
90	7-9	Disc	100	CFIWAP0090
110	7-9	Disc	100	CFIWAP0110
125	7-9	Disc	100	CFIWAP0125
150	7-9	Disc	100	CFIWAP0150
185	7-9	Disc	100	CFIWAP0185
240	7-9	Disc	100	CFIWAP0240
320	7-9	Disc	100	CFIWAP0320
110	7-9	Folded	100	CF2WAP0110
125	7-9	Folded	100	CF2WAP0125
150	7-9	Folded	100	CF2WAP0150
185	7-9	Folded	100	CF2WAP0185
240	7-9	Folded	100	CF2WAP0240
270	7-9	Folded	100	CF2WAP0270
320	7-9	Folded	100	CF2WAP0320

### WAS GRADE, 100 g/m<sup>2</sup>, SLOW FILTRATION. SCHARLAU

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	2-4	Disc	100	CFIWAS0047
50	2-4	Disc	100	CFIWAS0050
55	2-4	Disc	100	CFIWAS0055
70	2-4	Disc	100	CFIWAS0070
90	2-4	Disc	100	CFIWAS0090
110	2-4	Disc	100	CFIWAS0110
125	2-4	Disc	100	CFIWAS0125
150	2-4	Disc	100	CFIWAS0150
185	2-4	Disc	100	CFIWAS0185
240	2-4	Disc	100	CFIWAS0240
110	2-4	Folded	100	CF2WAS0110
125	2-4	Folded	100	CF2WAS0125
150	2-4	Folded	100	CF2WAS0150
185	2-4	Folded	100	CF2WAS0185
240	2-4	Folded	100	CF2WAS0240
270	2-4	Folded	100	CF2WAS0270
320	2-4	Folded	100	CF2WAS0320



**WAT GRADE, 100 g/m<sup>2</sup>, VERY SLOW FILTRATION. SCHARLAU**

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	1-3	Disc	100	CFIWAT0047
50	1-3	Disc	100	CFIWAT0050
55	1-3	Disc	100	CFIWAT0055
70	1-3	Disc	100	CFIWAT0070
90	1-3	Disc	100	CFIWAT0090
110	1-3	Disc	100	CFIWAT0110
125	1-3	Disc	100	CFIWAT0125
150	1-3	Disc	100	CFIWAT0150
185	1-3	Disc	100	CFIWAT0185
240	1-3	Disc	100	CFIWAT0240
320	1-3	Disc	100	CFIWAT0320
110	1-3	Folded	100	CF2WAT0110
125	1-3	Folded	100	CF2WAT0125
150	1-3	Folded	100	CF2WAT0150
185	1-3	Folded	100	CF2WAT0185
240	1-3	Folded	100	CF2WAT0240
270	1-3	Folded	100	CF2WAT0270
320	7-9	Folded	100	CF2WAP0320

**QUALITATIVE LOW ASH FILTER PAPERS**



Filter papers for qualitative analysis, identifies detained. High cellulose quality and ashes content below 0,07%.

**LAF GRADE, 130 g/m<sup>2</sup>, FAST FILTRATION. SCHARLAU**

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	25-30	Disc	100	CFILAF0047
55	25-30	Disc	100	CFILAF0055
70	25-30	Disc	100	CFILAF0070
90	25-30	Disc	100	CFILAF0090
110	25-30	Disc	100	CFILAF0110
125	25-30	Disc	100	CFILAF0125
150	25-30	Disc	100	CFILAF0150
185	25-30	Disc	100	CFILAF0185
240	25-30	Disc	100	CFILAF0240
125	25-30	Folded	100	CF2LAF0125
150	25-30	Folded	100	CF2LAF0150
185	25-30	Folded	100	CF2LAF0185
240	25-30	Folded	100	CF2LAF0240
320	25-30	Folded	100	CF2LAF0320

**LAG GRADE, 88 g/m<sup>2</sup>, FAST FILTRATION. SCHARLAU**

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	20-25	Disc	100	CFILAG0047
55	20-25	Disc	100	CFILAG0055
70	20-25	Disc	100	CFILAG0070
90	20-25	Disc	100	CFILAG0090
110	20-25	Disc	100	CFILAG0110
125	20-25	Disc	100	CFILAG0125
150	20-25	Disc	100	CFILAG0150
185	20-25	Disc	100	CFILAG0185
240	20-25	Disc	100	CFILAG0240
320	20-25	Disc	100	CFILAG0320
90	20-25	Folded	100	CF2LAG0090
110	20-25	Folded	100	CF2LAG0110
125	20-25	Folded	100	CF2LAG0125
150	20-25	Folded	100	CF2LAG0150
185	20-25	Folded	100	CF2LAG0185
240	20-25	Folded	100	CF2LAG0240
320	20-25	Folded	100	CF2LAG0320



### LAM GRADE, 87 g/m<sup>2</sup>, MEDIUM TO SLOW FILTRATION. SCHARLAU

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	10-15	Disc	100	CFILAM0047
50	10-15	Disc	100	CFILAM0050
55	10-15	Disc	100	CFILAM0055
70	10-15	Disc	100	CFILAM0070
90	10-15	Disc	100	CFILAM0090
110	10-15	Disc	100	CFILAM0110
125	10-15	Disc	100	CFILAM0125
150	10-15	Disc	100	CFILAM0150
185	10-15	Disc	100	CFILAM0185
240	10-15	Disc	100	CFILAM0240
90	10-15	Folded	100	CF2LAM0090
110	10-15	Folded	100	CF2LAM0110
125	10-15	Folded	100	CF2LAM0125
150	10-15	Folded	100	CF2LAM0150
185	10-15	Folded	100	CF2LAM0185
240	10-15	Folded	100	CF2LAM0240
320	10-15	Folded	100	CF2LAM0320

### LAP GRADE, 80 g/m<sup>2</sup>, SLOW FILTRATION. SCHARLAU

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	2-4	Disc	100	CFILAP0047
50	2-4	Disc	100	CFILAP0050
55	2-4	Disc	100	CFILAP0055
70	2-4	Disc	100	CFILAP0070
90	2-4	Disc	100	CFILAP0090
110	2-4	Disc	100	CFILAP0110
125	2-4	Disc	100	CFILAP0125
150	2-4	Disc	100	CFILAP0150
185	2-4	Disc	100	CFILAP0185
240	2-4	Disc	100	CFILAP0240
320	2-4	Disc	100	CFILAP0320
90	2-4	Folded	100	CF2LAP0090
110	2-4	Folded	100	CF2LAP0110
125	2-4	Folded	100	CF2LAP0125
150	2-4	Folded	100	CF2LAP0150
185	2-4	Folded	100	CF2LAP0185
240	2-4	Folded	100	CF2LAP0240
320	2-4	Folded	100	CF2LAP0320

### LAS GRADE, 80 g/m<sup>2</sup>, VERY SLOW FILTRATION. SCHARLAU

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	1-3	Disc	100	CFILAS0047
50	1-3	Disc	100	CFILAS0050
55	1-3	Disc	100	CFILAS0055
70	1-3	Disc	100	CFILAS0070
90	1-3	Disc	100	CFILAS0090
110	1-3	Disc	100	CFILAS0110
125	1-3	Disc	100	CFILAS0125
150	1-3	Disc	100	CFILAS0150
185	1-3	Disc	100	CFILAS0185
240	1-3	Disc	100	CFILAS0240
90	1-3	Folded	100	CF2LAS0090
110	1-3	Folded	100	CF2LAS0110
125	1-3	Folded	100	CF2LAS0125
150	1-3	Folded	100	CF2LAS0150
185	1-3	Folded	100	CF2LAS0185
240	1-3	Folded	100	CF2LAS0240
320	1-3	Folded	100	CF2LAS0320

**LAT GRADE, 200 g/m<sup>2</sup>, MEDIUM TO SLOW FILTRATION, THICK. SCHARLAU**

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
47	5-7	Disc	100	CFILAT0047
50	5-7	Disc	100	CFILAT0050
55	5-7	Disc	100	CFILAT0055
70	5-7	Disc	100	CFILAT0070
90	5-7	Disc	100	CFILAT0090
110	5-7	Disc	100	CFILAT0110
125	5-7	Disc	100	CFILAT0125
150	5-7	Disc	100	CFILAT0150
185	5-7	Disc	100	CFILAT0185
240	5-7	Disc	100	CFILAT0240
320	5-7	Disc	100	CFILAT0320

**QUALITATIVE FILTER PAPERS FOR GENERAL USE (TECHNICAL GRADE)**



Filter papers for routine analysis. High quality cellulose and ashes content below 0,3%.

**STAR GRADE, 160 g/m<sup>2</sup>, EXTRA FAST FILTRATION, FOR GENERAL USE. SCHARLAU**

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
90	60-68	Disc	100	CFISTAR090
110	60-68	Disc	100	CFISTAR110
125	60-68	Disc	100	CFISTAR125
130	60-68	Disc	100	CFISTAR130
150	60-68	Disc	100	CFISTAR150
185	60-68	Disc	100	CFISTAR185
240	60-68	Disc	100	CFISTAR240
270	60-68	Disc	100	CFISTAR270
320	60-68	Disc	100	CFISTAR320
90	60-68	Folded	100	CF2STAR090
110	60-68	Folded	100	CF2STAR110
125	60-68	Folded	100	CF2STAR125
150	60-68	Folded	100	CF2STAR150
185	60-68	Folded	100	CF2STAR185
240	60-68	Folded	100	CF2STAR240
70	60-68	Folded	100	CF2STAR270
320	60-68	Folded	100	CF2STAR320

**STAE GRADE, 80 g/m<sup>2</sup>, EXTRA FAST FILTRATION, FOR GENERAL USE. SCHARLAU**

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
90	43-48	Disc	100	CFISTAE090
110	43-48	Disc	100	CFISTAE110
125	43-48	Disc	100	CFISTAE125
130	43-48	Disc	100	CFISTAE130
150	43-48	Disc	100	CFISTAE150
200	43-48	Disc	100	CFISTAE200
250	43-48	Disc	100	CFISTAE250
90	43-48	Folded	100	CF2STAE090
110	43-48	Folded	100	CF2STAE110
130	43-48	Folded	100	CF2STAE130
150	43-48	Folded	100	CF2STAE150
185	43-48	Folded	100	CF2STAE185
200	43-48	Folded	100	CF2STAE200
250	43-48	Folded	100	CF2STAE250
300	43-48	Folded	100	CF2STAE300



**STAM GRADE, 75 g/m<sup>2</sup>, MEDIUM TO FAST FILTRATION, FOR GENERAL USE. SCHARLAU**

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
90	14-22	Disc	100	CFISTAM090
110	14-22	Disc	100	CFISTAM110
125	14-22	Disc	100	CFISTAM125
130	14-22	Disc	100	CFISTAM130
150	14-22	Disc	100	CFISTAM150
185	14-22	Disc	100	CFISTAM185
240	14-22	Disc	100	CFISTAM240
320	14-22	Disc	100	CFISTAM320
90	14-22	Folded	100	CF2STAM090
110	14-22	Folded	100	CF2STAM110
125	14-22	Folded	100	CF2STAM125
150	14-22	Folded	100	CF2STAM150
185	14-22	Folded	100	CF2STAM185
240	14-22	Folded	100	CF2STAM240
320	14-22	Folded	100	CF2STAM320

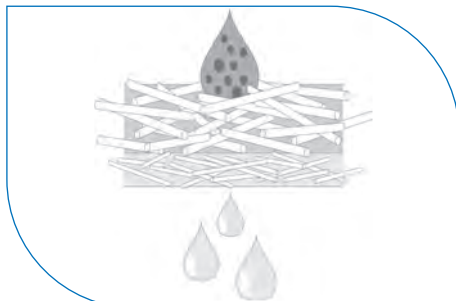
**STAF GRADE, 85 g/m<sup>2</sup>, EXTRA FAST FILTRATION, FOR GENERAL USE. CREPED. SCHARLAU**

Ø (mm)	TYPICAL RETENTION (µm)	DISC/FOLDED	PACK (U.)	ART. NO.
90	34-42	Disc	100	CFISTAF090
110	34-42	Disc	100	CFISTAF110
125	34-42	Disc	100	CFISTAF125
150	34-42	Disc	100	CFISTAF150
185	34-42	Disc	100	CFISTAF185
240	34-42	Disc	100	CFISTAF240
320	34-42	Disc	100	CFISTAF320
90	34-42	Folded	100	CF2STAF090
110	34-42	Folded	100	CF2STAF110
125	34-42	Folded	100	CF2STAF125
150	34-42	Folded	100	CF2STAF150
185	34-42	Folded	100	CF2STAF185
240	34-42	Folded	100	CF2STAF240
320	34-42	Folded	100	CF2STAF320
125	5-7	Disc	100	CFISTAS125
185	5-7	Disc	100	CFISTAS185
240	5-7	Disc	100	CFISTAS240
320	5-7	Disc	100	CFISTAS320



## FILTRATION: GLASS MICROFIBRE AND QUARTZ MICROFIBRE FILTERS

### GLASS MICROFIBRE FILTERS



Due to its high retention of very fine particles and high loading capacity, the borosilicate glass microfiber is very resistant to aggressive environments and temperatures up to 500°C.

Commonly used for suspended solids in all types of water and effluent and filtration of particulates in water, algae and bacterial cultures, food and drink analyses.

#### TYPE GMFA. NO BINDING AGENTS

Ø (mm)	PARTICLE RETENTION IN LIQUID (µm)	WEIGHT (g/m <sup>3</sup> )	THICKNESS (mm)	PACK (U.)	ART. NO.
24	1,6	52	0,2	100	GMFA-50024
35	1,6	52	0,2	100	GMFA-50035
47	1,6	52	0,2	100	GMFA-50047
90	1,6	52	0,2	100	GMFA-50090
150	1,6	52	0,2	100	GMFA-50150

#### TYPE GMFB. NO BINDING AGENTS

Ø (mm)	PARTICLE RETENTION IN LIQUID (µm)	WEIGHT (g/m <sup>3</sup> )	THICKNESS (mm)	PACK (U.)	ART. NO.
24	1,0	143	0,7	50	GMFB143024
47	1,0	143	0,7	50	GMFB143047
90	1,0	143	0,7	50	GMFB143090
150	1,0	143	0,7	50	GMFB143150

#### TYPE GMFC. NO BINDING AGENTS

Ø (mm)	PARTICLE RETENTION IN LIQUID (µm)	WEIGHT (g/m <sup>3</sup> )	THICKNESS (mm)	PACK (U.)	ART. NO.
24	1,2	52	0,25	100	GMFC-52024
35	1,2	52	0,25	100	GMFC-52035
47	1,2	52	0,25	100	GMFC-52047
90	1,2	52	0,25	100	GMFC-52090
150	1,2	52	0,25	100	GMFC-52150

#### TYPE GMFD. NO BINDING AGENTS

Ø (mm)	PARTICLE RETENTION IN LIQUID (µm)	WEIGHT (g/m <sup>3</sup> )	THICKNESS (mm)	PACK (U.)	ART. NO.
24	2,7	120	0,53	100	GMFD120024
47	2,7	120	0,53	100	GMFD120047
90	2,7	120	0,53	100	GMFD120090
150	2,7	120	0,53	100	GMFD-12150

#### TYPE GMFF. NO BINDING AGENTS

Ø (mm)	PARTICLE RETENTION IN LIQUID (µm)	WEIGHT (g/m <sup>3</sup> )	THICKNESS (mm)	PACK (U.)	ART. NO.
24	0,7	75	0,45	100	GMFF-75024
37	0,7	75	0,45	100	GMFF-75037
47	0,7	75	0,45	100	GMFF-75047
90	0,7	75	0,45	100	GMFF-75090

#### TYPE GMFG. NO BINDING AGENTS

Ø (mm)	PARTICLE RETENTION IN LIQUID (µm)	WEIGHT (g/m <sup>3</sup> )	THICKNESS (mm)	PACK (U.)	ART. NO.
37	1,5	65	0,28	100	GMFG-65037
47	1,5	65	0,28	100	GMFG-65047

## QUARTZ MICROFIBRE FILTERS

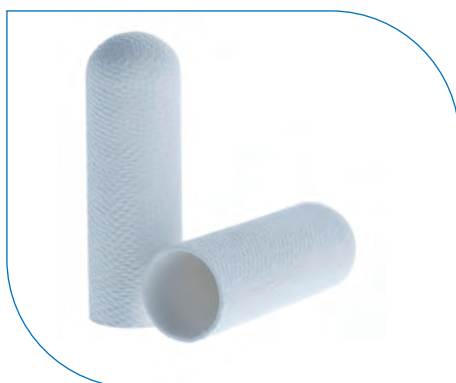


MFQ quartz microfibre disc, resistant up to 900°C, ≈ 85 g/m<sup>2</sup>. Suitable for air sampler PM10. 99,95% efficiency in retaining particles 1 to 3 microns. Trace elements analysis available.

Ø (mm)	PARTICLE RETENTION IN LIQUID (µm)	PACK (U.)	ART. NO.
37	≈ 1,5	50	MFQ-85T037
47	≈ 1,5	50	MFQ-85T047
90	≈ 1,5	50	MFQ-85T090
150	≈ 1,5	50	MFQ-85T150

## FILTRATION: SOXHLET CELLULOSE EXTRACTION THIMBLES

### CELLULOSE EXTRACTION THIMBLES



The extraction thimbles are made of high-purity alpha cellulose liners. Usually used with the Soxhlet extraction technique, for extractions of lipid compounds, from solid and semi-solid samples by means of solvents. Diameter tolerance ±3 mm, and ±10 mm height tolerance. Wall thickness of 1,5 mm and ashes content less than 0,2%. The thimble range is completed with models fitted to automated Soxhlet extractor manufacturers.

#### STANDARD CELLULOSE THIMBLES

DIM. INNER Ø x LENGTH (mm)	PARTICLE RETENTION IN LIQUID (µm)	PACK (U.)	ART. NO.
10x50	Nom. 8-15	25	CT32510X50
19x90	Nom. 8-15	25	CT32519x90
20x80	Nom. 8-15	25	CT32520X80
22x100	Nom. 8-15	25	CT32522100
25x60	Nom. 8-15	25	CT32525X60
25x80	Nom. 8-15	25	CT32525X80
26x100	Nom. 8-15	25	CT32526100
26x60	Nom. 8-15	25	CT32526X60
28x100	Nom. 8-15	25	CT32528100
28x120	Nom. 8-15	25	CT32528120
30x100	Nom. 8-15	25	CT32530100
30x80	Nom. 8-15	25	CT32530X80
30x95	Nom. 8-15	25	CT32530X95
33x100	Nom. 8-15	25	CT32533100
33x118	Nom. 8-15	25	CT32533118
35x120	Nom. 8-15	25	CT32535120
35x150	Nom. 8-15	25	CT32535150
40x150	Nom. 8-15	25	CT32540150
48x145	Nom. 8-15	25	CT32548145

See **Soxhlet extractors** in **GLASSWARE**.



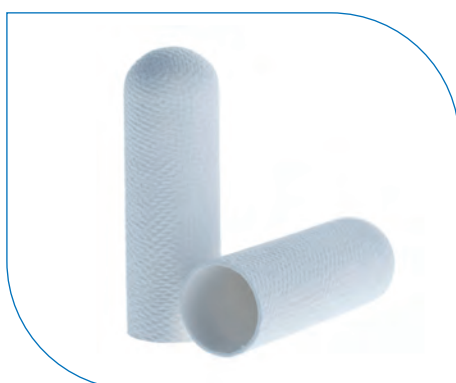
## GLASS EXTRACTION THIMBLES



Thimbles made of 100% borosilicate glass microfibre, chemically resistant to most solvents and reagents. Resistant to high temperatures (500°C). Suitable when the solvents present are incompatible with cellulose cartridges. Used for the analysis of dust particles and aerosols in gas streams.

DIM. INNER ØxLENGTH (mm)	PARTICLE RETENTION IN LIQUID (µm)	PACK (U.)	ART. NO.
10x50	Nom. 0,5	25	MGT3210X50
16x50	Nom. 0,5	25	MGT3216X50
22x80	Nom. 0,5	25	MGT3222X80
25x100	Nom. 0,5	25	MGT3225100
25x60	Nom. 0,5	25	MGT3225X60
26x60	Nom. 0,5	25	MGT3226X60
28x100	Nom. 0,5	25	MGT3228100
28x60	Nom. 0,5	25	MGT3228X60
30x70	Nom. 0,5	25	MGT3230X70
30x77	Nom. 0,5	25	MGT3230X77
30x100	Nom. 0,5	25	MGT3230100
33x94	Nom. 0,5	25	MGT3233X94
35x150	Nom. 0,5	25	MGT3235150
40x150	Nom. 0,5	25	MGT3240150
43x123	Nom. 0,5	25	MGT3243123
53x145	Nom. 0,5	25	MGT3253145

## QUARTZ MICROFIBRE EXTRACTION THIMBLES



Thimbles made from extremely pure quartz microfibre, without binding agents and with a very low content of heavy metals. Resists temperatures up to 900°C. These cartridges are used for emission tests in environments with high temperatures and for the analysis of acid gases.

DIM. INNER Ø x LENGTH (mm)	PARTICLE RETENTION IN LIQUID (µm)	PACK (U.)	ART. NO.
16x50	Nom. 0,5	25	TMQ3216X50
22x80	Nom. 0,5	25	TMQ3222X80
25x60	Nom. 0,5	25	TMQ3225X60
26x60	Nom. 0,5	25	TMQ3226X60
28x100	Nom. 0,5	25	TMQ3228100
28x60	Nom. 0,5	25	TMQ3228X60
30x70	Nom. 0,5	25	TMQ3230X70
30x77	Nom. 0,5	25	TMQ3230X77
30x100	Nom. 0,5	25	TMQ3230100
33x94	Nom. 0,5	25	TMQ3233X94
35x150	Nom. 0,5	25	TMQ3235150
40x150	Nom. 0,5	25	TMQ3240150
43x123	Nom. 0,5	25	TMQ3243123
53x145	Nom. 0,5	25	TMQ3253145

## FILTRATION: REAMS

### ABSORBENT AND PROTECTIVE PAPER (REAMS)



Sheets for the protection of work surfaces that help to absorb possible splashes and to mitigate the effects of liquid spills.

DIM. H x W (mm)	WEIGHT (g/m <sup>2</sup> )	PACK (U.)	ART. NO.
420x520	60	500	RM42520060
420x520	75	500	RM42520075

## ABSORBENT AND PROTECTIVE PAPER WITH PE



Absorbent and protective reams formed by two sheets. On the one hand, a sheet of absorbent paper for the containment of spills and splashes. On the other, a PE film that guarantees total permeability.

DIM. WxH (mm)	WEIGHT (g/m <sup>2</sup> )	PACK (U.)	ART. NO.
420x520	125	100	RMPE125100
420x520	125	500	RMPE125500
420x520	210	100	RMPE210100
420x520	210	500	RMPE210500

## FILTRATION: MEMBRANES

### MEMBRANES FOR THE MOBILE PHASE FILTRATION



Scharlab's filtration line is expanded with newly added filtration membranes for mobile phase filtration. Nylon membranes and Nitrocellulose Mixed Ester membranes of the highest quality are available.

We recommend using **nylon membranes as the standard material for filtering eluents due to its chemical compatibility**. As nylon is hydrophilic in nature, these membranes are appropriate for filtering aqueous solutions and for most of the organic solvents used in HPLC. A nylon membrane has a uniform pore size, consistent flows and a very low level of extractables. It can be exposed to up to 180°C without damage and has a pH range from 3 to 12.

Mixed ester membranes are composed of a **mixture of inert cellulose nitrate and cellulose acetate polymers**. The uniform microporous structure of these filters provides the fastest flow rates and highest throughputs available in a membrane filter. Their hydrophilic nature makes them ideal for **filtering aqueous solutions, including buffers**. These filters are autoclavable at 121°C (250°F) for 20 minutes. The pH range is from 4 to 10.

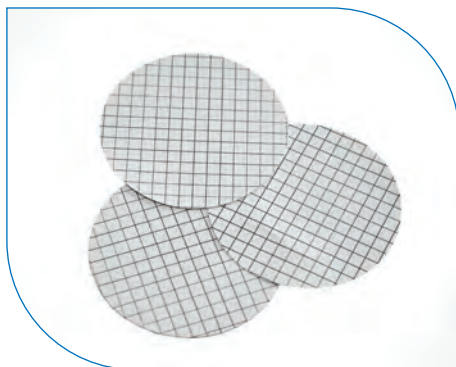
### NYLON

MATERIAL	Ø (mm)	PORUS SIZE (µm)	STERILE	GRID	COLOUR	PACK (U.)	ART. NO.
Nylon	47	0,22	No	No	White	100	NY47020100
Nylon	47	0,45	No	No	White	100	NY47045100
Nylon	47	0,22	No	No	White	100	NYL4720100
Nylon	47	0,45	No	No	White	100	NYL4745100

### MIXED ESTER

MATERIAL	Ø (mm)	PORUS SIZE (µm)	STERILE	GRID	COLOUR	PACK (U.)	ART. NO.
EMC	47	0,22	No	No	White	100	EM47020100
EMC	47	0,45	No	No	White	100	EM47045100
EMC	47	0,22	No	No	White	100	EMC4720100
EMC	47	0,45	No	No	White	100	EMC4745100

## FILTRATION MEMBRANES FOR MICROBIOLOGY



Filtration membranes especially used in the microbiological analysis of water samples. NC membranes comply with ISO 7704. PC and PES membranes are especially used in *Legionella* analysis according to ISO 11731.

MATERIAL	Ø (mm)	PORE (µm)	STERILE	COLOUR	GRID	PACK (U.)	ART. NO.
CN	47	0,2	Yes	White	Black	100	ES47020100
CN	47	0,2	Yes	Black	White	100	ES4702010N
CN	47	0,45	Yes	White	Black	100	ES47045100
PCTE	47	0,2	Yes	White	-	100	PC47020100
PES	47	0,2	No	White	-	100	PES4702000
PES	47	0,2	Yes	White	-	100	PES4702001

## FILTRATION: SYRINGE FILTERS

### SYRINGE FILTERS



Scharlau syringe filters are used mainly for filtering small aqueous and organic samples prior to chromatography injection. The filtered samples ensure column protection. The filter housing is made of pure PP. The result is a high-quality syringe filter fulfilling the needs of the most demanding chromatographers.

**Nylon:** nylon syringe filters have become the "standard" material due to their wide chemical compatibility and their hydrophobic nature. They can be used for filtering aqueous samples and most solvents.

**Nylon Premium** filters are subjected to a double quality control for the most demanding applications.

**Regenerated cellulose:** the regenerated syringe filters have a lower protein retention than those made of nylon and are less extractable than PVDF. Ideal for aqueous solutions.

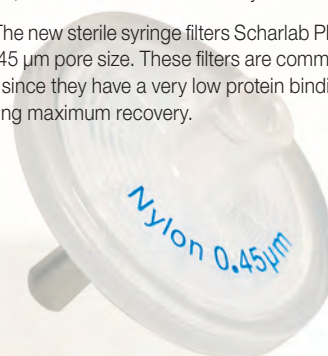
**PTFE:** syringe filters made of PTFE and have the lowest extractables levels and the widest chemical compatibility. They are especially suitable for filtering solvents due to their hydrophobic nature. Designed for filtering the most aggressive solvents, and strongest acids and bases. Also available in hydrophilic version.

**Mixed cellulose esters:** Filters composed of cellulose acetate and cellulose nitrate. Because it is biologically inert, it is one of the most widely used membranes in analytical and research applications.

**PVDF:** polyvinylidene fluoride syringe filters are indicated for the filtration of protein samples due to their very low retention.

**PP:** filters of hydrophobic PP (polypropylene), great resistance to solvents, very low protein binding and good thermal compatibility. They are used for general filtration of biological samples, solvents, deionised water. Commonly used for UHPLC.

**PES:** The new sterile syringe filters Scharlab PES (polyethersulfone) of 25 mm diameter, 0.22 µm and 0,45 µm pore size. These filters are commonly used in molecular biology, filtration of culture media since they have a very low protein binding, high performance and low extractables level, providing maximum recovery.



## NYLON PREMIUM

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
Nylon	13	0,22	No	500	NY13020500
Nylon	13	0,45	No	200	NY13045200
Nylon	13	0,22	No	1000	NY13021000
Nylon	13	0,45	No	1000	NY13041000
Nylon	25	0,22	No	200	NY25020200
Nylon	25	0,22	No	1000	NY25021000
Nylon	25	0,45	No	200	NY25045200
Nylon	25	0,45	No	1000	NY25041000
Nylon with GF prefilter	25	0,45	No	200	NYP2545200
Nylon with GF prefilter	30	0,45	No	200	NYP3045200

## NYLON

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
Nylon	13	0,22	No	200	NYL1320200
Nylon	13	0,22	No	1000	NYL1321000
Nylon	13	0,45	No	200	NYL1345200
Nylon	13	0,45	No	1000	NYL1341000
Nylon	25	0,22	No	200	NYL2520200
Nylon	25	0,22	No	1000	NYL2521000
Nylon	25	0,45	No	200	NYL2545200
Nylon	25	0,45	No	1000	NYL2541000

## REGENERATED CELLULOSE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
CR	13	0,22	No	1000	CR13021000
CR	13	0,45	No	1000	CR13041000
CR	25	0,22	No	200	CR25020200
CR	25	0,22	No	1000	CR25021000
CR	25	0,45	No	200	CR25045200
CR	25	0,45	No	1000	CR25041000

## PTFE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
PTFE	13	0,22	No	200	PTF1320200
PTFE	13	0,22	No	1000	PTF1321000
PTFE	13	0,45	No	200	PTF1345200
PTFE	13	0,45	No	1000	PTF1341000
PTFE	25	0,22	No	200	PTF2520200
PTFE	25	0,22	No	1000	PTF2521000
PTFE	25	0,45	No	200	PTF2545200
PTFE	25	0,45	No	1000	PTF2541000

## HYDROPHILIC PTFE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
Hydrophilic PTFE	13	0,2	No	200	PTH1320200
Hydrophilic PTFE	13	0,4	No	200	PTH1345200
Hydrophilic PTFE	25	0,2	No	200	PTH2520200
Hydrophilic PTFE	25	0,4	No	200	PTH2545200

## MIXED CELLULOSE ESTERS

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
MCE	13	0,22	No	200	MCE1320200
MCE	13	0,45	No	200	MCE1345200
MCE	25	0,22	No	200	MCE2520200
MCE	25	0,45	No	200	MCE2545200

## PVDF

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
PVDF	13	0,22	No	200	PVD1320200
PVDF	13	0,22	No	1000	PVD1321000
PVDF	13	0,45	No	200	PVD1345200
PVDF	13	0,45	No	1000	PVD1341000
PVDF	17	0,45	No	200	PV17045200
PVDF	25	0,22	No	200	PVD2520200
PVDF	25	0,22	No	1000	PVD2521000
PVDF with GF prefilter	25	0,22	No	200	PVP2520200
PVDF	25	0,45	No	200	PVD2545200
PVDF with GF prefilter	25	0,45	No	200	PVP2545200
PVDF	30	0,22	No	200	PV30020200
PVDF	30	0,45	No	200	PV30045200
PVDF	30	0,45	No	1000	PV30041000

## POLYPROPYLENE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
Polypropylene	13	0,22	No	200	PPL1320200
Polypropylene	13	0,22	No	1000	PPL1321000
Polypropylene	13	0,45	No	200	PPL1345200
Polypropylene	13	0,45	No	1000	PPL1341000
Polypropylene	25	0,22	No	200	PPL2520200
Polypropylene	25	0,22	No	1000	PPL2521000
Polypropylene	25	0,45	No	200	PPL2545200
Polypropylene	25	0,45	No	1000	PPL2541000

## HYDROPHILIC POLYPROPYLENE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
Hydrophilic Polypropylene	13	0,22	No	200	PPH1320200
Hydrophilic Polypropylene	13	0,45	No	200	PPH1345200
Hydrophilic Polypropylene	25	0,22	No	200	PPH2520200
Hydrophilic Polypropylene	25	0,45	No	200	PPH2545200

## PES

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
PES	13	0,22	No	200	PES1320200
PES	13	0,45	No	200	PES1345200
PES	25	0,22	No	200	PES2520200
PES	25	0,45	No	200	PES2545200
PES	25	0,22	Yes	50	PES252250S
PES	25	0,45	Yes	50	PES254550S

## CELLULOSE ACETATE

FILTER	Ø (mm)	PORE SIZE (µm)	STERILE	PACK (U.)	ART. NO.
CA	13	0,22	No	200	CEA1320200
CA	13	0,45	No	200	CEA1345200
CA	25	0,22	No	200	CEA2520200
CA with GF prefilter	25	0,22	No	200	CEP2520200
CA	25	0,45	No	200	CEA2545200
CA with GF prefilter	25	0,45	No	200	CEP2545200

# INDICATOR PAPERS

## INDICATOR PAPERS

### pH INDICATOR PAPER ON A ROLL



The pH indicator paper is an easy and quick method for measuring pH values in a solution. The pH is determined by a single colour change which can be matched with the colour scale at intervals of 1 pH.

DESCRIPTION	PACK (U.)	ART. NO.
pH indicator paper 1-14. Rolls of 5m x 7mm	1 roll	TP0114000R
pH indicator paper 1-11. Rolls of 5m x 7mm	1 roll	TP0111000R

### pH INDICATOR STRIPS



Anti-drip strips produce an extremely clear colour change that is durable and readable until the strips dry out. Non bleeding.

DESCRIPTION	PACK (U.)	ART. NO.
pH indicator strips 4-10. Readable at intervals of 0,5 pH. 100 strips per pack	1	TP0410000S
pH indicator strips 7-14. Readable at intervals of 0,5 pH. 100 strips per pack	1	TP7514000S
pH indicator strips 0-6. Readable at intervals of 0,5 pH. 100 strips per pack	1	TP0006000S
pH indicator strips 2-9. Readable at intervals of 0,5 pH. 100 strips per pack	1	TP0209000S
pH indicator strips 0-14, 4 pads in intervals of 1 pH unit. 100 strips per pack	1	TP0014004S

### SEMI-QUANTITATIVE TEST STRIPS



Scharlau's semi-quantitative test strips enable an easy and quick determination of different parameters in a solution.

DESCRIPTION	MEASUREMENT INTERVALS	PACK (U.)	ART. NO.
Nitrite indicator strips. 100 strips per package	0-0,5-1-5-10-25 ppm	1	TP002500NI
Nitrite indicator strips. 100 strips per package	0-10-25-50-100-250-500 ppm	1	TP050000NA
Peracetic acid indicator strips. 100 strips per package	0-5-10-20-30-50 ppm	1	TP005000PA
Peracetic acid indicator strips. 100 strips per package	0-100-250-500 ppm	1	TP050000PA
Peroxide indicator strips. 100 strips per package	0-1-3-10-30-100 ppm	1	TP010000PX
Peroxide indicator strips. 100 strips per package	0-100-200-400 ppm	1	TP040000PX



# PIPETTES

## PIPETTES: PASTEUR PIPETTES

### GRADUATED PLASTIC PASTEUR PIPETTES



PE Pasteur pipettes. Ideal for transferring and dispensing any type of liquid. Two capacities, 5 and 7 ml graduated to 1 and 3 ml respectively.

CAPACITY (ml)	GRADUATION (ml)	LENGTH (mm)	STERILE	PACK (U.)	ART. NO.
5	1	150	No	500	PPP0110000
7	3	150	No	500	PPP0120000

## PIPETTES: TIPS FOR AUTOMATIC PIPETTE FILLER

### UNIVERSAL TIPS FOR AUTOMATIC PIPETTES

0,2-10  $\mu$ l



New range of Scharlau Polypropylene tips. Compatible with most brands of automatic pipettes (Sartorius, Brand, Eppendorf, Finnpiquette, Gilson, Socorex, etc.). Available in bags, autoclavable racks, radiation sterilised racks and individually packed sterile tips.

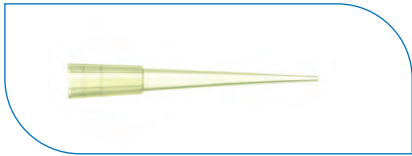
VOL. ( $\mu$ l)	TYPE	COLOUR	PRESENTATION	PACK (U.)	ART. NO.
0,2-10	Universal	Natural	Bag	1000	000P0210-1
0,2-10	Universal	Natural	Rack	10x96	000P0210-2

0,5-20 µl



VOL. (µl)	TYPE	COLOUR	PRESENTATION	PACK (U.)	ART. NO.
0,5-20	Universal	Natural	Rack	10x96	000P0520-2

5-200 µl



VOL. (µl)	TYPE	COLOUR	PRESENTATION	PACK (U.)	ART. NO.
5-200	Universal	Yellow	Bag	1000	000P5202-1
5-200	Universal	Yellow	Rack	10x96	000P5200-2

5-200 µl



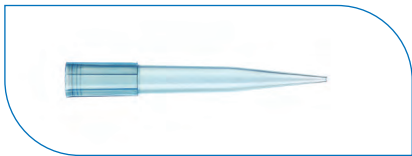
VOL. (µl)	TYPE	COLOUR	PRESENTATION	PACK (U.)	ART. NO.
5-200	Eppendorf	Yellow	Bag	1000	00PC5200-1
5-200	Eppendorf	Yellow	Rack	10x96	00PC5200-2

5-300 µl



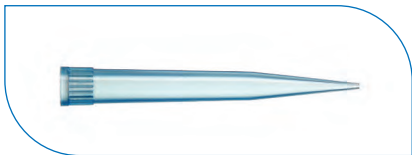
VOL. (µl)	TYPE	COLOUR	PRESENTATION	PACK (U.)	ART. NO.
5-300	Universal	Natural	Bag	1000	000P5300-1
5-300	Universal	Natural	Rack	10x96	000P5300-2

100-1000 µl



VOL. (µl)	TYPE	COLOUR	PRESENTATION	PACK (U.)	ART. NO.
100-1000	Universal	Blue	Bag	1000	000P1000-1
100-1000	Universal	Blue	Rack	8x60	000P1000-2

100-1000 µl



VOL. (µl)	TYPE	COLOUR	PRESENTATION	PACK (U.)	ART. NO.
100-1000	Eppendorf	Blue	Bag	1000	00PC1000-1
100-1000	Eppendorf	Blue	Rack	8x60	00PC1000-2

1000-5000 µl



VOL. (µl)	TYPE	COLOUR	PRESENTATION	PACK (U.)	ART. NO.
1000-5000	Universal	Natural	Bag	250	000P5000-1
1000-5000	Universal	Natural	Rack	4x50	000P5000-2

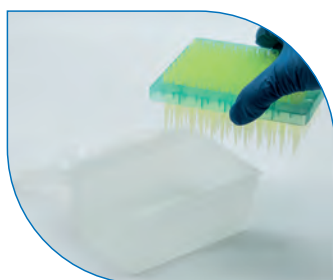
## TIPS IN RECHARGEABLE RACKS

Rechargeable system racks. They consist of empty racks and racks with charging points for recharging themselves. This saves time in the laboratory by not having to put the ends of the bag onto the rack. Racks are available both adapted to the system as the same charges. In the first purchase, both empty racks and racks with charging points must be purchased. Tips available in two volumes.

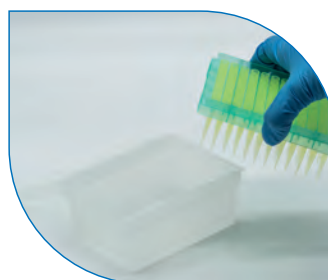
### EMPTY RACKS

DESCRIPTION (µl)	PACK (U.)	ART. NO.
Empty racks for 200 µl tip refills	10	RC000P5200
Empty racks for 1000 µl tip refills	10	RC000P1000

### CHARGING TIPS RACKS



RR000P5200



RR00PC5200



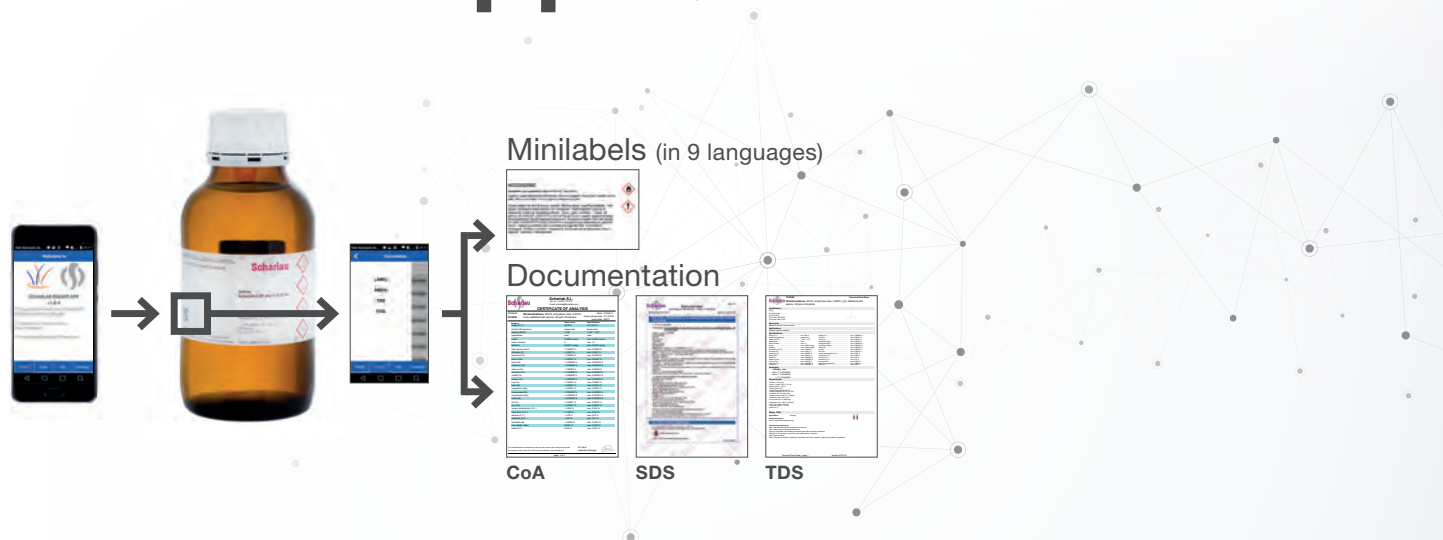
RR000P1000



RR00PC1000

DESCRIPTION	VOLUME (µl)	PACK (U.)	ART. NO.
Recharging tips	200	5x96	RR000P5200
Recharging tips with capillary	200	5x96	RR00PC5200
Recharging tips	1000	5x96	RR000P1000
Recharging tips with capillary	1000	5x96	RR00PC1000

# Scharlab Reader App QR

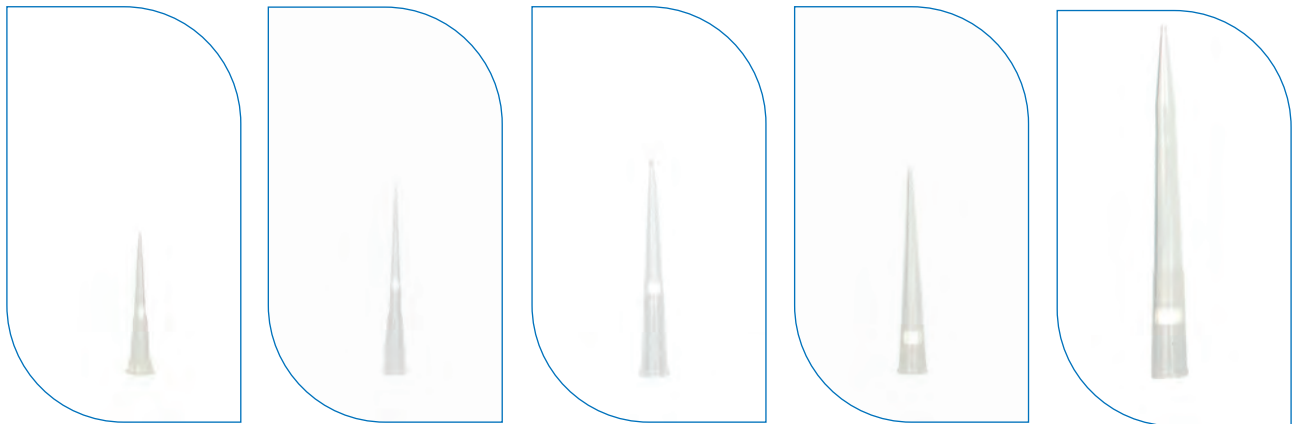


## FILTER TIPS

The table below shows the Scharlab filter tips compatibilities with main pipette brands\*.

MODEL	TRADEMARK	10 µl	10 µl XL	20 µl	100 µl	200 µl	1000 µl
Transferpette®	Brand	•	•			•	•
CAPP Bravo	CAPP	•	•	•	•	•	•
CAPP Aero		•	•	•	•	•	•
Research® Plus	Eppendorf	•	•	•	•	•	•
Finnpipette Digital	Finnpipette	•	•		•	•	•
Pipetman Classic™	Gilson	•	•	•	•	•	•
Rainin Classic	Rainin	•	•		•	•	•
Proline® Plus	Sartorius	•	•		•	•	•
mLine		•	•		•	•	•
Automatic pipettes	VWR	•	•		•	•	•
	Labnet	•	•		•	•	•
	HTL	•	•		•	•	•

\*The compatibilities are just a suggestion by the supplier.



00PF0110-2

000PF120-2

00PF1100-2

00PF1200-2

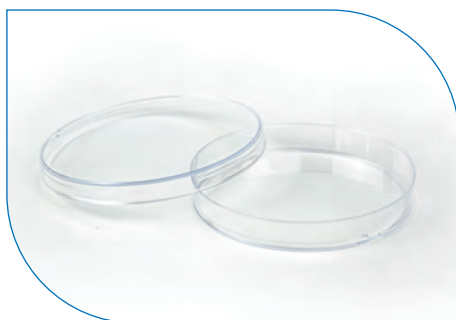
PF10010002

VOL. (µl)	PRESENTATION	COLOUR	PACK (U.)	ART. NO.
0,1-10	Bag	Natural	1000	00PF0110-1
0,1-10	Rack	Natural	10x96	00PF0110-2
0,1-10 XL type	Bag	Natural	1000	PFXL0110-1
0,1-10 XL type	Rack	Natural	10x96	PFXL0110-2
1-20	Bag	Natural	1000	000PF120-1
1-20	Rack	Natural	10x96	000PF120-2
1-100	Bag	Natural	1000	00PF1100-1
1-100	Rack	Natural	10x96	00PF1100-2
1-200	Bag	Natural	1000	00PF1200-1
1-200	Rack	Natural	10x96	00PF1200-2
100-1000	Bag	Natural	1000	PF10010001
100-1000	Rack	Natural	8x96	PF001000-2

# PLATES

## PLATES: PETRI DISHES AND ACCESSORIES

### PETRI DISHES



Scharlab Petri dishes are manufactured in high transparency PS following a fully automated process with strict quality controls, giving them the strength and transparency ideal for microbiological applications. Their great mechanical resistance makes them non-deformable. The dishes with winds facilitate the circulation of the air and avoid possible condensation. Aseptically produced in "Cleanroom ISO 6" rooms, a level of sterility is guaranteed. In addition, dishes are sterilised by radiation. They have a ring to facilitate and improve stability once stacked.

DESCRIPTION	Ø (mm)	HEIGHT (mm)	AMOUNT/BAG	PACK (U.)	ART. NO.
Aseptic ISO 6, 3 vents	90	14,2	20	480	PPD-90143A
Sterile, 3 vents	90	14,2	20	480	PPD-90143E

### STERILE DISPOSABLE INOCULATING LOOPS



Inoculation loops sterilised by radiation, manufactured in PS of 1 and 10 µl. Bags in peel-packs of 20 units with lot number and expiry date printed. Delivered with certified calibration and sterilisation.

VOLUME (µl)	COLOUR	PRESENTATION	PACK (U.)	ART. NO.
1	Green	Bags 20 u.	1000	PIL0030120
10	Blue	Bags 20 u.	1000	PIL0041020



**STERILE BAGS FOR HOMOGENISATION**

Scharlau sterile bags for homogenisation processes and analysis of solid samples. Notably resistant to the stress processes they are subjected to in the homogenisers. Compatible with any homogeniser. Three models available. Bags without filter, bags with lateral filter for the separation of fibrous samples and bags with total filter for pasty samples. The filters allow filtration of the sample during the homogenisation process and separate the bag into two spaces: one to introduce the sample and another to facilitate sampling with the pipette.

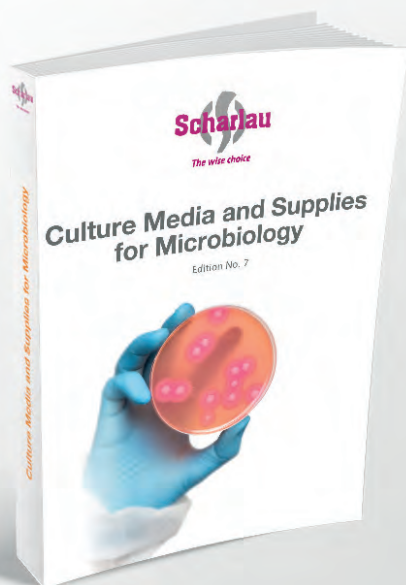


DESCRIPTION	CAP. (ml)	USABLE VOLUME (ml)	PORUS SIZE	DIM. W x H (mm)	PACK (U.)	ART. NO.
Without filter	400	50-300	-	175-300	500 (10x50)	BAG0400-01
With lateral filter	400	50-300	<250	190-300	500 (10x50)	BAG0400-02
With total filter	400	50-300	280	190-300	500 (10x50)	BAG0400-03



**NEW CATALOGUE**  
**Culture Media and Supplies**  
**for Microbiology**

Microbiology  
Glassware  
Consumables





# SAFETY

## SAFETY: ABSORBENTS FOR LABORATORY

### CHEMISPILL® , ABSORBENTS AGAINST UNEXPECTED SPILLAGES



The new Chemispill® range, products with a high neutralisation capacity and high absorption power, allows the collection of laboratory spillages with total safety and reliability. This family of products consists of 3 complementary materials for the absorption and/or neutralisation of unforeseen spills:

**Chemispill® Sorb:** General absorbent of very low density with high absorption power. Capable of effectively absorbing organic, aqueous, oily spills, etc., without leaving residual marks or generating dusty residues.

**Chemispill® H+:** Absorbent material with a high neutralisation capacity. Efficiently neutralises any acid spill. Contains pH indicator, without phenolphthalein.

**Chemispill® OH-:** Absorbent product with a high neutralisation capacity. Efficiently neutralises any alkaline discharge. Contains pH indicator, without phenolphthalein.

**Spills Kit Chemispill®:** Complete safety Kit for laboratory discharges. It is delivered in a comfortable and smart briefcase, easy to use and transport. Contains: 1 bottle of each Chemispill® absorbent, Scharlau nitrile gloves, laboratory glasses, waste collection bags, scraper, brush and dustpan, and instructions for use.

**Chemispill® safety shelf:** Wall shelf to hang the entire Chemispill® range of products on the laboratory wall.

DESCRIPTION	PACK	ART. NO.
Chemispill® H+, absorbent and neutraliser for spilled acids, with indicator	2 Kg	AB00012000
Chemispill® H+, absorbent and neutraliser for spilled acids, with indicator	5 Kg	AB0001005P
Chemispill® Sorb, absorbent for spilled liquids	400 g	AB00020400
Chemispill® Sorb, absorbent for spilled liquids	1 Kg	AB00021000
Chemispill® Sorb, absorbent for spilled liquids	4 Kg	AB00024000
Chemispill® OH-, absorbent and neutraliser for spilled alkalis, with indicator	2 Kg	AB00032000
Chemispill® OH-, absorbent and neutraliser for spilled alkalis, with indicator	5 Kg	AB0003005P
Spills Kit Chemispill®	1 u.	AB0004-KIT
Chemispill® safety shelf	1 u.	AB0005ESTA

**SAFETY: GLOVES**

**DISPOSABLE, POWDER-FREE, BLUE NITRILE GLOVES FOR EXAMINATION**



Category III PPE gloves (European Directive 89/686/EEC, for Personal Protection Equipment), for the protection of user's hands against chemical, microbiological and virus risks. Class I examination gloves (European Directive 93/42/EEC, which governs Sanitary Products). Comply with EN 420:2003 + A1:2009 + ERRATUM: 2011 (general glove requirements), ISO 374-1:2016 (protection against dangerous chemicals), ISO 374-5: 2016 (protection against micro-organisms) and EN 455 1-2-3 (medical disposable gloves).

- Ambidextrous.
- Rolled/beaded cuff prevents glove rolldown/rollback and provides drip protection for the forearm.
- Superior tactile sensitivity and dexterity.
- External micro-textured fingertips provide a secure grip under dry and wet conditions.
- Smooth, chlorinated inner surface for easy donning/removal.
- Latex-free, eliminate the risk of latex allergy.
- Free of certain additives: reduces the risk of allergies caused by accelerators and coagulants used in some manufacturing processes.
- Powder-free, minimizing the risk of irritation.
- AQL 1.5.
- Suitable for contact with foodstuffs.
- Thickness: 0,09 mm (palm), 0,12 mm (fingertips).



ISO 374-1:2016 / Type B

ISO 374-5:2016



JKT

VIRUS



SIZE	LENGTH (mm)	THICKNESS FINGERTIPS/PALM (mm)	PACK (U.)	ART. NO.
S	240	0,12/0,09	100	GLV-NSP00S
M	240	0,12/0,09	100	GLV-NSP00M
L	240	0,12/0,09	100	GLV-NSP00L
XL	240	0,12/0,09	100	GLV-NSP00XL
S	240	0,12/0,09	10x100	GLVBNSP00S
M	240	0,12/0,09	10x100	GLVBNSP00M
L	240	0,12/0,09	10x100	GLVBNSP00L
XL	240	0,12/0,09	10x100	GLVBNSP00XL

**Technical Data Sheet in our website**



**Scharlau** Product: Nitrile powder-free glove blue Scharlau - Technical Data Sheet

**1. General**

Type: Nitrile glove, powder free, non-sterile

Classification: Medical device - Class I

Personal protective equipment PPE, CAT. II

Art. No.	Size	EUEN	EN
GLV-NSP00S	S	8431020020001	2843102002000S
GLV-NSP00M	M	8431020020008	2843102002000M
GLV-NSP00L	L	8431020020025	2843102002000L
GLV-NSP00XL	XL	8431020020032	2843102002000XL

**2. Photography**

**3. Product technical data**

- Product classification: Medical device - Type I (European Directive 93/42/EEC)
- EN: Category II (European Directive 93/42/EEC)
- Recommended applications: To prevent and to reduce contamination risks. General cleaning and maintenance duties. These gloves are also suitable for Apical/Oral Contact.
- Material: NBR nitrile butadiene Copolymer of butadiene acrylonitrile.
- Chemical Additives: The following chemical additives are used during manufacturing process.

Chemical name	CAS number	%	Application
Styrene	8009-18-3	84.8	Polymer
Titanium dioxide	13103-07-7	1.4	Pigment
Zinc oxide	1314-13-2	1.5	Chemical dispersion
Potassium hydroxide	1310-58-3	0.8	Stabilizer
Stearin	7734-26-9	0.8	Coating agent
Zinc dibutyldithiocarbamate (ZDBDC)	138-23-2	0.8	Accelerator
Blue pigment	14741-8	0.1	Blue pigment

Scharlau - Technical Data Sheet - Page 1 of 8 Date of review: 01/02/2018

Download here the TDS



# TIMERS

## TIMERS

### DIGITAL TIMER (ALARM CLOCK)

Three independent functions. Voice notification, can be activated or deactivated. Automatic repetition. 8 alarm sounds. Memory. 24-hour chronometer and countdown.



DESCRIPTION	PACK (U.)	ART. NO.
Digital timer (alarm clock)	1	502EL8845S

See **QUECHERS kits** in **SPE (Chromatography)**.



# TUBES

## TUBES: TUBES FOR CENTRIFUGE

### CONICAL TUBES 15 ml POLYPROPYLENE



PP centrifuge tubes conical bottom. Leakproof closure. Easy-to-read graduation. CE marking. Cap also made of PP. commonly used in centrifugation, sample storage and molecular biology among other applications.

DESCRIPTION	EXT. Ø x H (mm)	CENTRIF. RESIST (g)	STERILE	PACK (U.)	ART. NO.
15 ml tube	21x120	-	No	500	PCT0151000
15 ml tube	21x120	-	Yes	500	PCT0151001

### CONICAL TUBES 50 ml POLYPROPYLENE



PP centrifuge tubes with conical bottom without flap. Leakproof closure. Easy-to-read graduations. Commonly used in centrifugation, sample storage and molecular biology among other applications. The tubes have space for writing.

DESCRIPTION	EXT. Ø x H (mm)	CENTRIF. RESIST (g)	STERILE	PACK (U.)	ART. NO.
50 ml tube	28x118	12000	No	500	PCT0501000
50 ml tube	28x118	12000	Yes	1x500	PCT0501002
50 ml tube self-standing	28x118	12000	No	500	PCT0502000
50 ml tube self-standing	28x118	12000	Yes	1x500	PCT0502002

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