

Analytical Products



# EMPOWER YOUR LAB

EMSURE® | EMPARTA® | EMPLURA®  
Inorganics & Solvents for classical analysis



The life science business of Merck  
operates as MilliporeSigma in the  
U.S. and Canada.

**MERCK**

# YOUR partner FOR world-class INORGANICS and SOLVENTS

At Merck, our vision is to unleash the potential of science for life. But we couldn't do it without you. Close partnerships with our customers have been at the heart of our progress throughout our long history. They have allowed us to clearly understand your challenges. To develop high-quality solutions that are tailored to your needs. And to constantly push the boundaries of innovation.

As your reliable partner and one-stop supplier, we offer a portfolio of more than 40,000 products, and serve you from 154 locations in 67 countries around the world. So whether in your quality control lab, pilot plant or production facility, you'll have the most suitable products, packaging and documentation to conduct your application more easily, efficiently and economically.

Discover how our world-class Inorganics and Solvents can empower your work.

Demanding or regulated  
analytical applications

Routine analytical applications

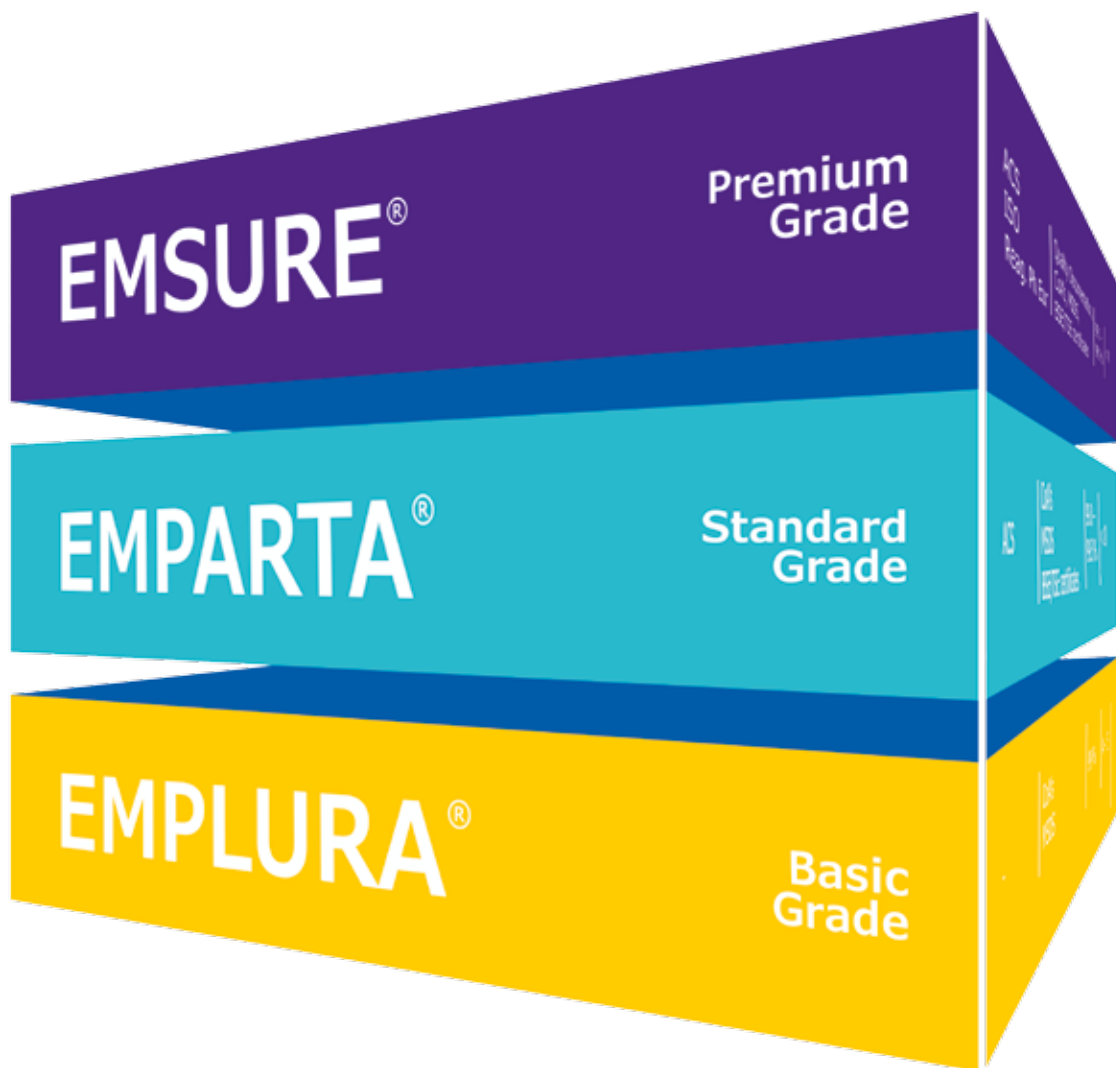
Preparative lab work,  
cleaning and production

# Looking for the right reagent for your application?

Just choose your grade

Life science is a vast field. It can mean anything from complex analysis to routine lab work or production. Each poses unique demands, requires distinct solutions, and is governed by different regulations. When looking for products, you have to consider your application, your target and, of course, your budget.

To simplify your search, our extensive portfolio of Inorganics and Solvents is divided into three grades: EMSURE<sup>®</sup>, EMPARTA<sup>®</sup> and EMPLURA<sup>®</sup>. Each quality grade is offered in a variety of volumes, packaging materials, and with different documentation packages. Now, you won't have to search for the right solution for your application. All you have to do is choose.



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	Regulations	Regulatory support	Purity	Number of specified parameters
EMSURE®	ACS ISO Reag. Ph Eur	Quality Documentation, CoA's, MSDS, BSE / TSE certificates	99.7 – 99.9 %	< 70
EMPARTA®	ACS	CoA's MSDS BSE / TSE certificates	99.0 – 99.5 %	< 10
EMPLURA®	–	CoA's MSDS	99 %	4 – 5

Packaging and Safe Handling  
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## Inorganics & Solvents

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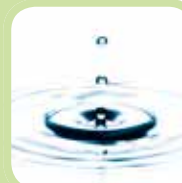
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# COMPLIANCE and DOCUMENTATION

Whether you manufacture products nationally or internationally, you need to comply with a host of regulations. It can be challenging to maintain an overview of requirements – especially when they change. This is where a capable partner can help.

Our Inorganics and Solvents are produced and tested according to multiple international guidelines. This means they can be used worldwide for almost all applications. It also allows our global customers to work with the same standard operating procedures (SOPs), and export to countries with different regulations.

By combining multi-standard compliance with comprehensive documentation, our products make your work both simpler and safer.



## Regulatory environment

Our analytical reagents are available in different grades, which are specified in accordance with various international regulations.

### **American Chemical Society (ACS)**

EMPARTA® and EMSURE® products are specified according to the monographs published in the “Reagent Chemicals” guidelines of the American Chemical Society (ACS). We follow the 11th and most recent edition of the guidelines, and regularly check for updates. Our in-depth approach to ACS specifications includes comparison with our own stringent quality control standards.

### **United States Pharmacopeia (USP)**

The “Reagents” chapter of the U.S. Pharmacopeia and National Formulary defines the quality of reagents required for testing according to USP-NF. In most cases, the USP recommends to “use ACS reagent grade”, which is described as a grade meeting the corresponding specifications of the current edition of “Reagent Chemicals” published by the ACS. Since EMPARTA® and EMSURE® products are ACS-compliant, they are also ideal for quality control according to USP-NF.

### **Reagents section of the European Pharmacopoeia (Reag. Ph Eur)**

Currently in its 9th edition, the European Pharmacopoeia (Ph Eur) is published by the European Directorate for the Quality of Medicines & Health Care (EDQM), and defines requirements for the “qualitative and quantitative composition of medicines, the tests to be carried out on medicines and on substances and materials used in their production”. It contains a detailed section describing reagents to be used for analysis in accordance with the European Pharmacopoeia. EMSURE® products fulfill these requirements, and bear the designation, “Reag. Ph Eur”.

### **International Organization for Standardization (ISO)**

Besides pharmacopoeia regulations, the International Organization for Standardization (ISO) also sets guidelines for analytical reagents. Specifically, ISO 6353 defines the requirements for reagents used in analytical chemistry. All EMSURE® products with the designation “ISO” are compliant with ISO 6353.

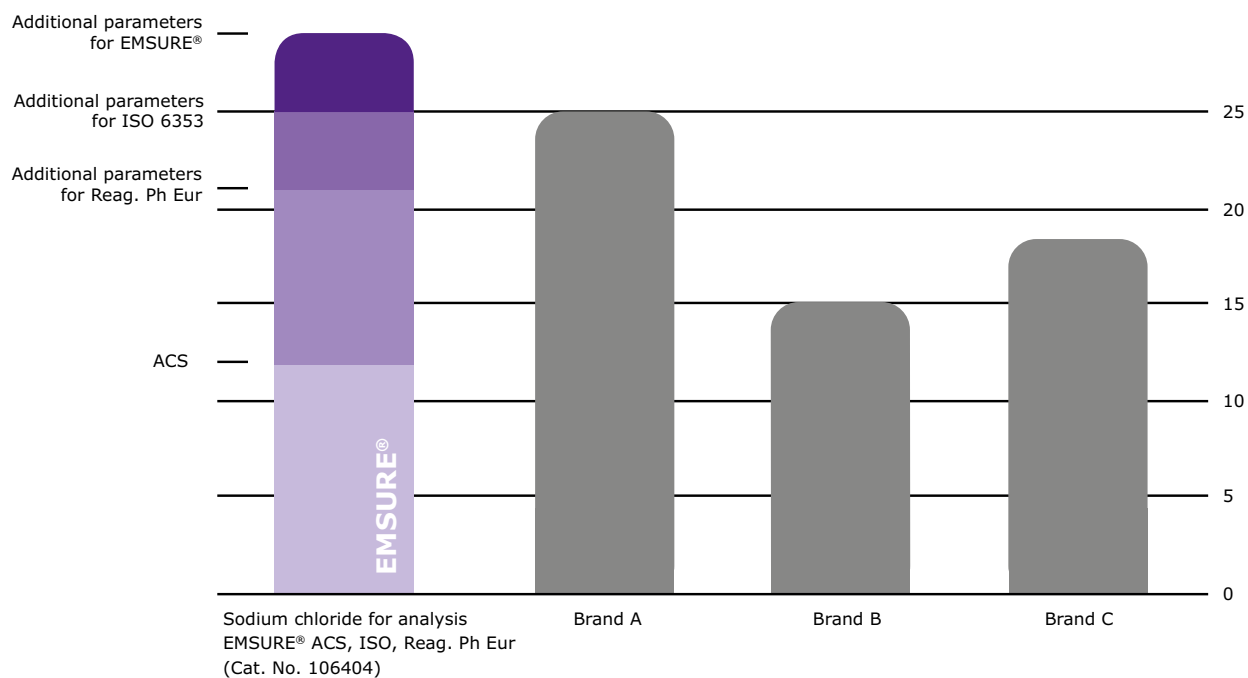
# Compliance and Documentation

We offer a choice of product grades to suit the regulatory environment you work in. EMPARTA® products are specified according to ACS. EMSURE® product specifications not only fulfill ACS, Reag. Ph Eur, and ISO guidelines – but exceed them. That's because we are regularly adding new parameters required by our customers. This is essential as it enables the use of new, more sensitive technologies.

## The most parameters

The graphs "below" vs "on the right hand side" demonstrate the typical number of parameters specified for EMSURE® products versus those required by regulatory organizations (ACS, Reag. Ph Eur and ISO). Clearly, EMSURE® products not only fulfill international guidelines, but surpasses them by far. Brand comparisons confirm the advantages of EMSURE® reagents. In this example, the number of specified parameters clearly demonstrates the superior quality of an EMSURE® product.





## Documentation

Complete, correct documentation is vital when working with analytical reagents. That's why we offer product specifications, Certificates of Analysis, and Material Safety Data Sheets (MSDS) for all EMSURE®, EMPARTA® and EMPLURA® products. Available 24/7 on our website, the specifications and Certificates of Analysis prove the superior quality of the chemicals, while the MSDS provides product-specific safety information. For selected EMSURE® products we even offer detailed quality documentation packages.

## Regulatory support

EMSURE®

Quality Documentation,  
CoA's, MSDS,  
BSE / TSE certificates

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EMPARTA®

CoA's  
MSDS  
BSE / TSE certificates

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EMPLURA®

CoA's  
MSDS

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# pharmaceutical Analysis

With suitable, specified reagents

We supply several hundred Inorganics and Solvents for pharmaceutical analysis – the most extensive range offered by any manufacturer. Comprising solvents, acids, salts, caustics, bases, indicators and special reagents, our pharmacopoeia portfolio ensures that you work with the most suitable products for your particular needs and that they meet all quality guidelines.

For pharmaceutical analysis, you have the choice of two grades: EMSURE® or EMPARTA®. While both grades comply with ACS standards, EMSURE® products also fulfill the Reagents requirements of the European Pharmacopoeia.

## Fulfill global requirements

Through compliance with these comprehensive global standards, our analytical reagents offer a new level of quality and reliability in pharmaceutical applications. Whether for research and development or routine quality control, they allow you to fulfill the fundamental prerequisites of your scientific work and successfully pass audits.

## Ensure reliable analyses

Reagent quality is decisive in pharmaceutical analysis. The greater and more consistent the quality, the more reproducible the results, and the lower the need for repeat analyses. Due to their exceptional quality and purity, our analytical reagents provide you with greater accuracy, efficiency and economy from the start.

## Soar with our high standards

Our product quality not only complies with international regulations, but also fulfills the Merck KGaA, Darmstadt, Germany rigorous pharmaceutical guidelines – which are even more stringent for most products. Due to our unique, superior quality standards and additional parameters, our reagents offer maximum purity and security.



## Regulations

EMSURE®

ACS (Reag. USP)  
ISO  
Reag. Ph Eur

► For more information see page 20

EMPARTA®

ACS (Reag. USP)

► For more information see page 32

### Specification

Reag. Ph Eur = Reagents section of the European Pharmacopoeia

ACS = American Chemical Society

USP = United States Pharmacopoeia (refers to ACS for reagents)

# specifications and purity

## Our promise of exceptional quality

Our reagents and chemicals are renowned for their outstanding quality. We achieve and maintain this reputation through three important measures: validation, accreditation, and compliance with regulations. Every step in our supply chain is subject to the most stringent controls and fully documented to give you complete confidence in your analysis.

### Purity

Decades of experience with highly pure chemicals combined with state-of-the-art production and filling plants ensure that what you order is what you receive. We only use high-quality raw materials and manufacture under strictly controlled conditions using our advanced methodology. This results in outstanding chemical purity and extremely low limiting values, which makes our products the ideal choice for reliable qualitative and quantitative analyses.

### Quality control

All our Inorganics and Solvents are tested and certified in our own state-of-the-art laboratories under the guidance of highly qualified specialists. We have quality control labs at every production site, which work closely together to ensure comparable test procedures and results. During testing, we always adhere to international standards and legal requirements, and integrate the latest developments in technology and methods.

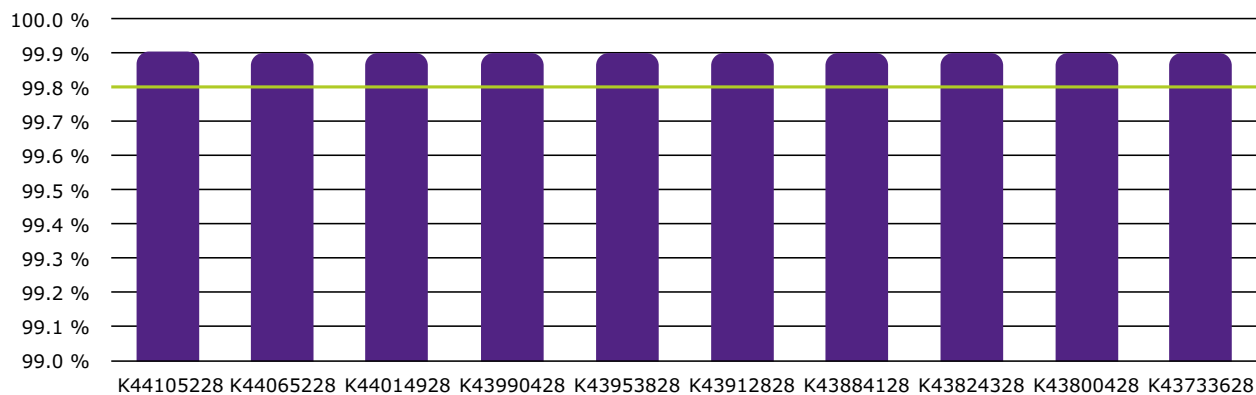
So you can trust on our analytical competence. EMPARTA® and EMPLURA® grade products are tested at one of our own labs close to its production site. EMSURE® grade products are quality controlled at our Merck KGaA, Darmstadt, Germany site.

### Consistency

Due to their outstanding batch-to-batch consistency, each time you use our products, you can expect the same excellent quality. This not only ensures reproducible results, but also avoids the costs and complications of repeat analyses.

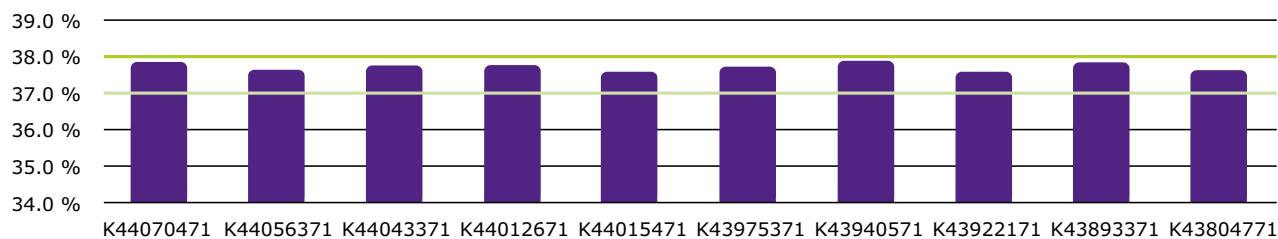
The graphs on the right demonstrate the superior batch-to-batch consistency of some of our products.

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

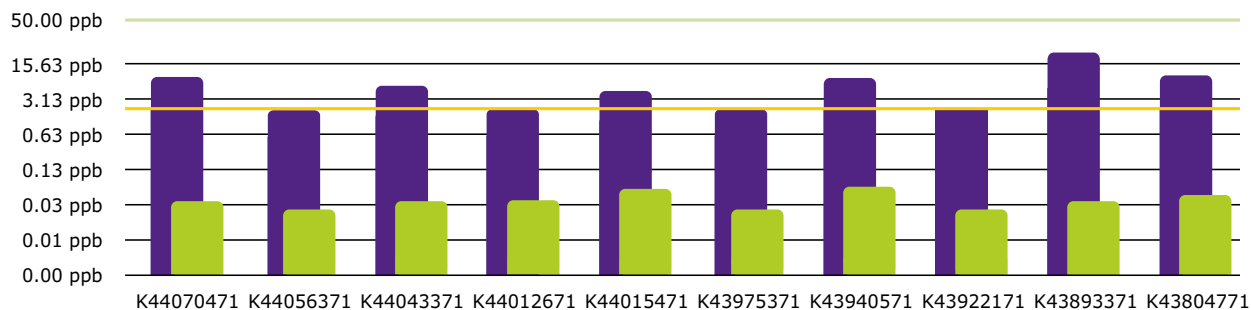


Assay specification  
Assay effective values

## Hydrochloric acid fuming 37 % for analysis EMSURE® ACS, ISO, Reag. Ph Eur



Assay (acidimetric) specified max.  
Assay (acidimetric) specified min.  
Assay (acidimetric) effective values



Fe specification      Cu specification  
Fe effective values    Cu effective values

# Specifications and Purity

## Our promise of exceptional quality

### Unrivalled specifications

Our reagents and solvents often offer additional specifications beyond those required by international guidelines, such as ISO, ACS and Reag. Ph Eur. Many are measured for up to 70 parameters! Furthermore, thanks to our proven Quality Management System, we are able to continuously improve our specifications.

### Application-optimized

The differences in our quality grades are clearly shown in their individual specifications. Regardless of the grade you choose, you will always receive a product of excellent quality that's perfectly suited to your application.

	Specifications	Purity	Number of specified parameters	
EMSURE® products combine maximum specifications with minimum impurities. Their Certificates of Analysis provide an extended impurity profile for each batch, and detailed batch values for each specification parameter. This avoids misinterpretation of results, and gives you greater control of your analysis, especially when developing new methods.	EMSURE®	The most extensive specifications world-wide!	99.7 – 99.9 %	< 70
	EMPARTA®	All ACS requirements	99.0 – 99.5 %	< 10
	EMPLURA®	All basic parameters	99 %	4 – 5

### Dedicated service

For us, quality encompasses more than product purity and consistency. It also means service that exceeds expectations. Whether you require regulatory support, application advice, or a specific product, our experienced team is always at hand to work closely with you and deliver swift, innovative solutions.





## Certificate of Analysis

1.04933.0500 Potassium chloride for analysis ( $\leq 0.005\%$  Br) EMSURE® ACS,ISO,  
Reag. Ph Eur  
Batch A1073933

	Spec. Values		Batch Values	
Assay (argentometric)	99.5 - 100.5	%	99.7	%
Assay (argentometric; calculated on dried substance)	99.0 - 100.5	%	99.8	%
Identity	passes test		passes test	
Appearance of solution	passes test		passes test	
Insoluble matter	$\leq 0.005$	%	$\leq 0.005$	%
pH-value (5 %; water)	5.5 - 8.0		5.6	
Acidity or alkalinity	passes test		passes test	
Bromide (Br)	$\leq 0.005$	%	$\leq 0.005$	%
Chlorate and Nitrate (as NO <sub>3</sub> )	$\leq 0.003$	%	$\leq 0.003$	%
Iodide (I)	$\leq 0.002$	%	$\leq 0.002$	%
Iodide (I)	passes test		passes test	
Phosphate (PO <sub>4</sub> )	$\leq 0.0005$	%	$\leq 0.0005$	%
Sulphate (SO <sub>4</sub> )	$\leq 0.001$	%	$\leq 0.001$	%
Total nitrogen (N)	$\leq 0.001$	%	$\leq 0.001$	%
Heavy metals (as Pb)	$\leq 0.0005$	%	$\leq 0.0005$	%
Ba (Barium)	passes test		passes test	
Ca (Calcium)	$\leq 0.001$	%	$\leq 0.001$	%
Fe (Iron)	$\leq 0.0002$	%	$\leq 0.0002$	%
Mg (Magnesium)	$\leq 0.0005$	%	$\leq 0.0005$	%
Na (Sodium)	$\leq 0.005$	%	$\leq 0.005$	%
Magnesium and alkaline-earth metals (as Ca)	$\leq 0.02$	%	$\leq 0.02$	%
Loss on Drying (105°C)	$\leq 1.0$	%	$< 0.7$	%

Corresponds to ACS,ISO,Reag. Ph Eur

Date of release (DD.MM.YYYY) 19.08.2016  
Minimum shelf life (DD.MM.YYYY) 31.08.2021

Claudia Wiegand  
Responsible laboratory manager quality control

This document has been produced electronically and is valid without a signature.

# SAFETY AND PACKAGING

## Protecting people, products and the planet

Besides offering premium chemicals and reagents, we have invested decades into developing the most advanced packaging concepts in the field of chemistry. Our innovative packaging and withdrawal systems are precisely tailored to the contents, and based on sustainable principles. So they not only protect your personnel and products, but also the environment.



### Light, unbreakable HDPE bottles for reagents

- Safe and unbreakable
- High pressure stability
- Light, easy to carry
- Integrated handle
- Environmentally friendly, easy to recycle

### Robust, PE-coated Safebreak bottles for acids

- Safe handling of acids
- Meet all safety requirements
- All advantages of glass bottles
- Easy, eco-friendly disposal (with glass)

### Environmentally friendly, returnable stainless steel drums for solvents

- Safe, easy and convenient handling of solvents
- Ecological, returnable container
- Cost effective solution
- Suitable withdrawal systems available



### Development and testing

Our internal packaging department is exclusively responsible for testing, developing and approving packaging materials. Our package testing facility is accredited by the German Federal Institute for Materials Research and Testing (BAM – Bundesanstalt für Materialforschung und -prüfung), the authority responsible for the packaging of dangerous goods.

### Grades and options

All our products are delivered in sophisticated and suitable packaging. The choice of packaging, however, varies from grade to grade. EMSURE® products are available in a large variety of packaging sizes and materials to suit your particular application and requirements. EMPARTA® and EMPLURA® products are offered in standard pack sizes, for example, 1 kg or 25 kg for solids, and 2.5 l, 4 l, or 25 l for liquids.

### Packaging advantages

- Packaging is always compatible with the product
- Safe and convenient handling, storage and transportation
- Optimal protection of chemicals and reagents from contamination
- Application-oriented packaging
- Wide choice of packaging materials and sizes

► For more details about our packaging, please see “Packaging and Safe Handling” on page 42

# EMSURE®

## Premium Grade Products

### Inorganics and Solvents – for demanding or regulated analytical applications

The EMSURE® brand designates our premium grade Inorganics and Solvents, which are optimized for regulated analyses and highly demanding lab applications. These products offer the highest quality and an unmatched scope of specifications to give you complete control of test conditions and eliminate uncertainties. What's more, EMSURE® Inorganics and Solvents are fully compliant with international regulations, and are suitable for an extraordinarily wide range of applications. So when you want to be more than sure: choose EMSURE® products.





**Highest convenience  
and safety**

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**Obtain more accurate  
and reliable results**

▶ Page 24



**Fulfill regulatory  
requirements**

▶ Page 27



**Know your  
impurity profile**

▶ Page 22



**Worldwide  
availability**

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**Comprehensive  
documentation**

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## **EMSURE® Premium Grade Products**

# EMSURE®

## Premium Grade Inorganics and Solvents



### Extended impurity profile – Superior purity and clarity

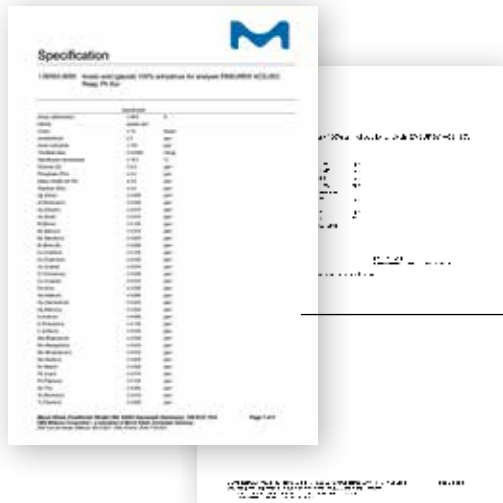
New analytical methods have lower detection limits and higher sensitivity. Hence, reagents of greater purity are required. EMSURE® products are the perfect choice. They not only offer superior quality, but also more extensive product information to prepare you for any analytical challenge.

All EMSURE® products are made from high-quality raw materials in our state-of-the-art production facilities, then tested for up to 70 parameters at our stringent quality control labs in Darmstadt, Germany. This results in outstanding chemical purity and extremely low limiting values.

Every EMSURE® product comes with a comprehensive Certificate of Analysis, which includes an extended impurity profile for each batch. This gives you absolute analytical security, and prevents misinterpretation of results caused by impurities.



**Acetic acid (glacial) 100 % anhydrous for analysis EMSURE® Premium Grade Inorganics and Solvents, ACS, ISO, Reag. Ph Eur**



Additional parameters for EMSURE® products \_\_\_\_\_

Additional parameters for ISO 6353 \_\_\_\_\_

Additional parameters for Reag. Ph Eur \_\_\_\_\_

ACS \_\_\_\_\_

- Most extensive specifications worldwide
  - Tested for up to 70 parameters
  - Extraordinary purity
  - Very low limiting values
- Greater accuracy and control of analyses
- Optimized for highly critical and demanding analyses
- Ideal for method development
- No interference or contamination due to unknown impurities

## Acetic acid (glacial)

100% anhydrous for analysis  
EMSURE®

Water	≤ 0.2 %
Zr (Zirconium)	≤ 0.050 ppm
Zn (Zinc)	≤ 0.030 ppm
V (Vanadium)	≤ 0.010 ppm
Tl (Thallium)	≤ 0.020 ppm
Ti (Titanium)	≤ 0.050 ppm
Sr (Strontium)	≤ 0.010 ppm
Sn (Tin)	≤ 0.050 ppm
Pt (Platinum)	≤ 0.100 ppm
Phosphate (PO <sub>4</sub> )	≤ 0.4 ppm
Ni (Nickel)	≤ 0.020 ppm
Na (Sodium)	≤ 0.200 ppm
Mo (Molybdenum)	≤ 0.010 ppm
Mn (Manganese)	≤ 0.010 ppm
Mg (Magnesium)	≤ 0.050 ppm
Li (Lithium)	≤ 0.010 ppm
K (Potassium)	≤ 0.100 ppm
In (Indium)	≤ 0.050 ppm
Hg (Mercury)	≤ 0.005 ppm
Ge (Germanium)	≤ 0.020 ppm
Ga (Gallium)	≤ 0.050 ppm
Cr (Chromium)	≤ 0.020 ppm
Co (Cobalt)	≤ 0.010 ppm
Cd (Cadmium)	≤ 0.020 ppm
Ca (Calcium)	≤ 0.100 ppm
Bi (Bismuth)	≤ 0.050 ppm
Be (Beryllium)	≤ 0.005 ppm
Ba (Barium)	≤ 0.010 ppm
B (Boron)	≤ 0.100 ppm
Au (Gold)	≤ 0.010 ppm
As (Arsenic)	≤ 0.010 ppm
Al (Aluminium)	≤ 0.020 ppm
Ag (Silver)	≤ 0.005 ppm
Acetaldehyde	≤ 2 ppm

Pb (Lead)	≤ 0.010 ppm
Cu (Copper)	≤ 0.010 ppm

Solidification temp.	≤ 16.3 °C
Identity	passes test

Titrate base	≤ 0.0004 meq/g
Substances reducing KMnO <sub>4</sub>	≤ 20 ppm
Substances reducing K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	passes test
Fe (Iron)	≤ 0.050 ppm
Heavy metals (as Pb)	≤ 0.5 ppm
Sulphate (SO <sub>4</sub> )	≤ 0.4 ppm
Chloride (Cl)	≤ 0.4 ppm
Acetic anhydride	≤ 100 ppm
Evaporation residue	≤ 5 ppm
Dilution test	passes test
Color	≤ 10 Hazen
Assay (alkalimetric)	≤ 99.8 %

# EMSURE®

## Premium Grade Inorganics and Solvents



### Accuracy and reliability – Absolute trust – every time

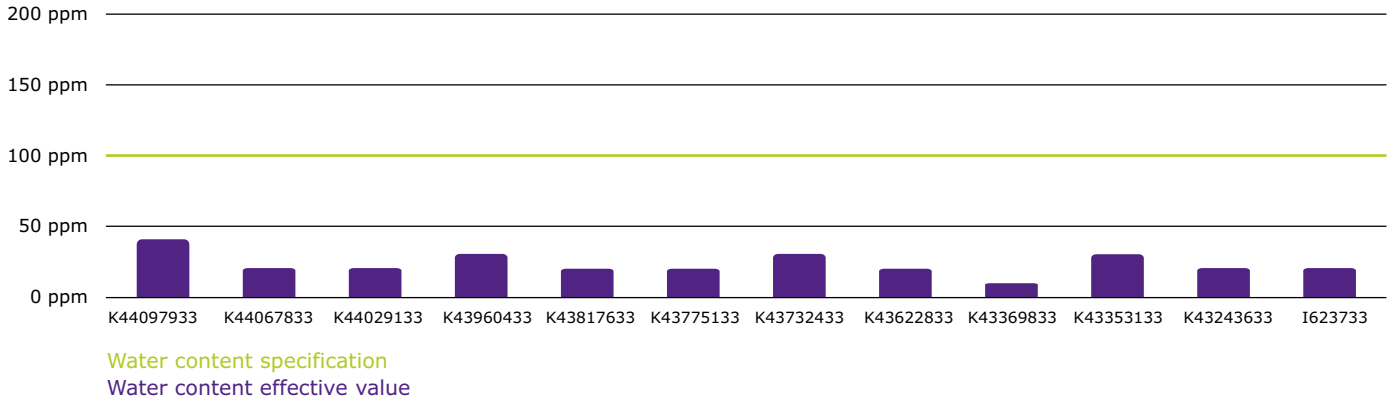
Thanks to their outstanding batch-to-batch consistency, each time you use EMSURE® products, you can expect the same excellent quality. This not only ensures reproducible results, but also reduces your analytical costs. Now, you can avoid repeat analyses, and won't need to stock up on specific product batches.

- Unmatched batch-to-batch consistency
- Reliable and reproducible results
- Lower analytical costs
- No repeat analyses

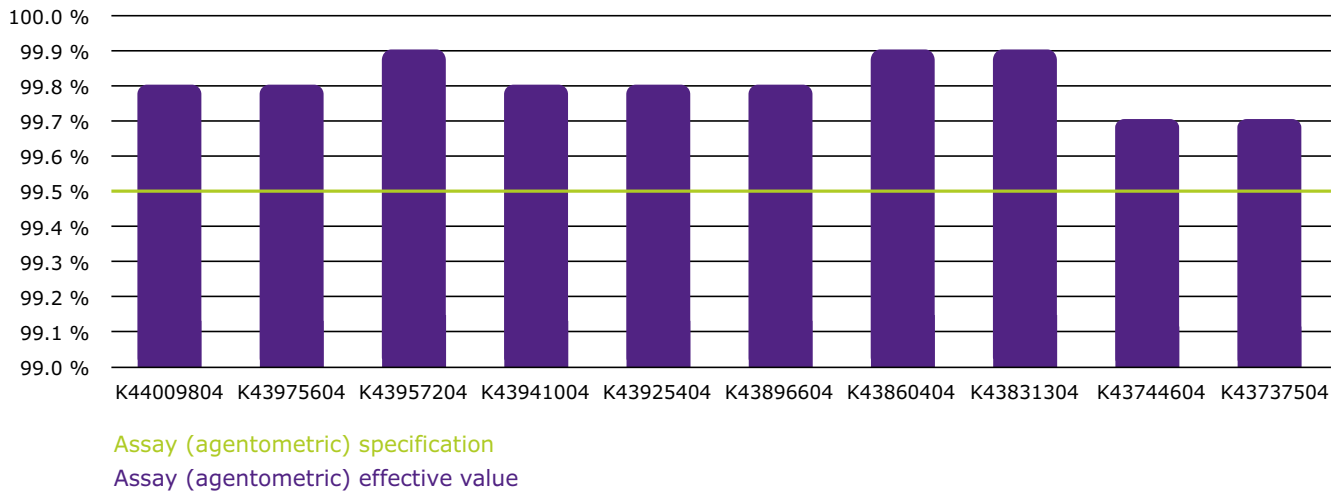




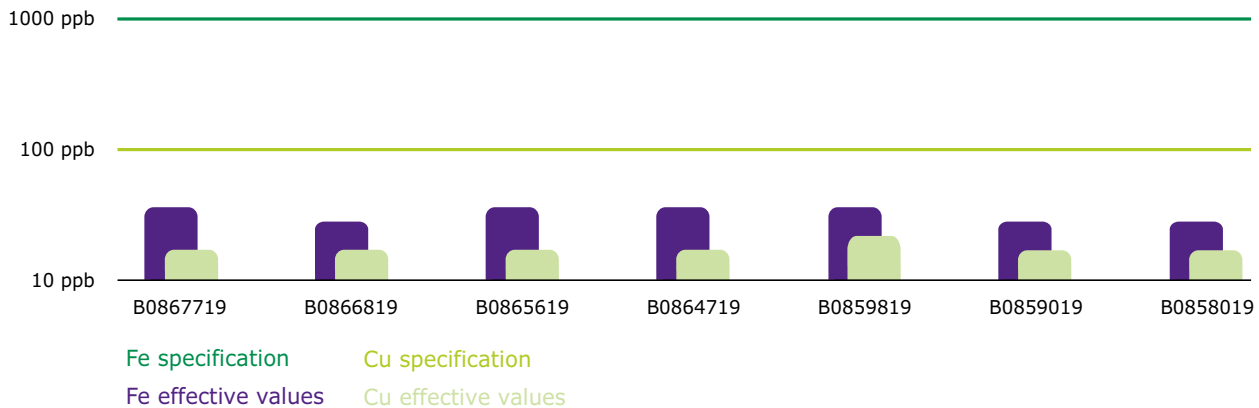
### Chloroform for analysis EMSURE® ACS, ISO, Reag. Ph Eur



### Sodium chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur



### Perchloric acid 70 – 72 % for analysis EMSURE® ACS, ISO, Reag. Ph Eur



# EMSURE®

## Premium Grade Inorganics and Solvents



### Convenience and safety – Packed with innovation

EMSURE® products offer top quality both inside and out. Through continuous innovation, we have developed various packaging and withdrawal systems, which are precisely tailored to the contents. Our solutions offer secure and convenient usage for lab personnel, while being safer for the planet.

- Packaging is always compatible with the product
- Safe and convenient handling, storage and transportation
- Optimal protection of chemicals and reagents from contamination
- Application-oriented packaging
- Wide choice of packaging materials and sizes



Safebreak bottle for EMSURE® acids and unbreakable HDPE bottles for acids, solvents and bases.



### **Regulatory compliance – Specified beyond standards**

EMSURE® product specifications not only fulfill ACS, Reag. Ph Eur and ISO guidelines – but surpass them. That’s because we are regularly adding new parameters required by our customers. As a result, EMSURE® products can be used around the world for almost all applications, including pharmacopoeia analysis. Due to their extensive specifications, EMSURE® products are also suitable for use with the latest technologies, such as detecting concentrations of metals via atomic absorption spectroscopy (AAS).

- Compliance with ACS, ISO and / or Reag. Ph Eur (Please see “Compliance and Documentation”)
- Most products’ specifications exceed international standards
- Suitable for pharmacopoeia analysis
- Can be used internationally



### **Global availability – One excellent quality – worldwide**

Whenever or wherever you require EMSURE® Inorganics and Solvents, we serve you the same excellent quality from 154 locations in 67 countries around the world. This, combined with multi-standard compliance, means that our multinational customers can work with the same standard operating procedures (SOPs), and export to countries with different regulations.

- Identical quality worldwide
- Comparable results
- Work with one global SOP
- Suitable for global export



## Premium Grade Inorganics and Solvents



### **Comprehensive documentation – All the documents you need – whenever you need them**

We provide extensive documentation for EMSURE® products to further support your work. All standard documents are available 24/7 on [www.merckmillipore.com](http://www.merckmillipore.com). Simply search for documents using the product number, CAS number or keywords.

### **Standard EMSURE® documents include:**

- Material Safety Data Sheet (MSDS)
- Product specifications
- Batch-specific Certificate of Analysis (CoA)
- Physicochemical information

### **EMSURE® Quality Documentation – More insights. More efficiency. More expertise.**

For even greater security and simplicity in your analyses and audits, we also offer EMSURE® Quality Documentation. The service includes comprehensive product information and up-to-date certificates, which can be downloaded in one file, and stored in your lab system or printed when required. Now, you won't need to search for individual documents on various sources, or to perform time-consuming lab filing. Just one click and you have all the information you need from one source. EMSURE® Quality Documentation will be available for selected products in two versions: Basic and Advanced.



# EMSURE®

## Premium Grade Inorganics and Solvents



### EMSURE® Quality Documentation

#### Your advantages

No matter which package you choose, EMSURE® Quality Documentation will add considerable simplicity and security to your analyses and audits.

- Streamline lab work
- Save time and costs
- Ensure comparability of results
- Certainty during use of product
- Accuracy regarding impurities
- Confidence in analysis and production

Learn more about your advantages, and obtain your copy of EMSURE® Quality Documentation on:

[www.merckmillipore.com/emsure/documentation](http://www.merckmillipore.com/emsure/documentation)



### Quality Documentation Basic

Available free of charge, the “Basic” version provides all standard registration and product-specific characteristics in a clear and concise format. Simply download the package from the our website, and obtain essential, up-to-date information about the reagents you use.

Package includes:

- Synonyms / nomenclature
- Chemical formula
- Material Safety Data Sheet
- ISO certificates of Merck KGaA, Darmstadt, Germany production sites
- REACH registration statements
- Chemical inventories statement
- Product specifications
- Country of origin
- Risk statements e.g. BSE / TSE information

### Quality Documentation “Advanced”

The “Advanced” version provides additional, valuable insights into our stringent production and testing procedures, including details about costly tests we perform to give you the utmost security in your lab work. The information is continuously revised and upgraded according to new methods and regulations.

The documentation is available as a PDF file, which can be saved directly in your lab system. The complete package can be ordered and it includes free updates for 5 years. Simply sign the confidentiality agreement, download the document, and enjoy unlimited access to the most current information.

Package includes:

- All documents of the “Basic” package
- Production flow charts
- Test monographs
- RoHS certificate
- Batch analysis comparison
- Additional test certificates e.g. allergens, aflatoxins, residual solvents
- GMO information
- Non-nano particle information

# EMPARTA®

## Standard Grade Products

### Inorganics and Solvents – for routine analytical applications

With EMPARTA® products, we offer a range of high-quality, cost-efficient Inorganics and Solvents for routine analytical applications. These standard-grade products offer fewer test parameters than EMSURE® products. Still, EMPARTA® product specifications are fully compliant with ACS requirements and cover all important parameters, thus ensuring reliable and reproducible results.







**Standard quality  
for routine applications**

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**Compliant with  
ACS**

▶ Page 34



**Convenient  
lab-sized packaging**

▶ Page 35



**Reliable results**

▶ Page 35



**Efficient and  
cost-effective solution**

▶ Page 35

## **EMPARTA® Standard Grade Products**

# EMPARTA®

## Standard Grade Inorganics and Solvents



### Compliant with ACS

The quality of EMPARTA® Inorganics and Solvents is tested according to the specifications of the monographs published in the “Reagent Chemicals” guidelines of the American Chemical Society (ACS). We follow the 11th and most recent edition of the guidelines, and regularly check for updates. Our in-depth approach to ACS specifications includes comparison with our own stringent quality control standards.

### Reagents for analysis according to USP

The “Reagents” chapter of the U.S. Pharmacopeia and National Formulary defines the quality of reagents required for testing according to USP-NF. In most cases, the USP recommends to “use ACS reagent grade”, which is described as a grade meeting the corresponding specifications of the current edition of “Reagent Chemicals” published by the ACS. Since EMPARTA® products are fully compliant with ACS guidelines, they are ideal for quality control according to USP-NF.



### Standard quality for routine lab applications

EMPARTA® products offer just the parameters you really need – including all those required by the ACS. Hence, they are the perfect choice for reliable quality control and routine analytical applications in less regulated industries.



### Reliable results

EMPARTA® Inorganics and Solvents feature a high analytical purity of 99.0 – 99.5 %. Thanks to our sophisticated production chain, particulate impurities and cross-contamination from other products are completely ruled out.

### Efficient and cost-effective solution

From raw materials to specifications, packaging and documentation, every aspect of EMPARTA® products is designed to make your analytical lab applications as cost-effective as possible – without sacrificing quality.



### Convenient lab-sized packaging

EMPARTA® Inorganics and Solvents typically come in HDPE or amber glass bottles, which are the perfect size for working in the lab. Our tailor-made packaging offers multiple safety features.

**Learn about them in the chapter >> “Packaging and Safe Handling” (page 42).**

# EMPLURA®

## Basic Grade Products

Inorganics and Solvents for preparative lab work,  
cleaning and production

For many applications, you don't need chemicals of the highest purity – you need a cost-effective solution with reliable quality that is available in large quantities. The EMPLURA® product range is ideal for basic lab work and production applications. These economical Solvents and Inorganics offer adequate specifications with the most common parameters, and are available in small pack sizes as well as in bulk quantities.





**Economical solution**

▶ Page 38



**Adequate specifications with most common parameters**

▶ Page 38



**Suitable for numerous basic applications**

▶ Page 38



**Completely flexible pack sizes**

▶ Page 38



**Greener chemical alternatives**

▶ Page 39

## **EMPLURA® Basic Grade Products**

# EMPLURA®

## Basic Grade Inorganics and Solvents

### Suitable for numerous basic applications

The EMPLURA® product range includes a broad selection of the most important Inorganics and Solvents. So you will easily find the most suitable solutions for numerous basic applications, such as preparative lab work, cleaning or standard production processes.



### Economical solution

Why pay for high purity when your application only requires basic quality? EMPLURA® products Inorganics and Solvents are your economical answer. It gives you reliable results at a reasonable price.

### Completely flexible pack sizes

Our standard packaging options vary from 1 l glass bottles to 190 l drums. However, we are completely flexible and can offer even larger quantities, such as intermediate bulk containers (IBCs) or tank containers, on request.



### Adequate specifications

EMPLURA® products are mainly tested for preparative lab applications and standard production processes. Hence, we only monitor the basic parameters that are important in these applications, such as purity, identity, density, evaporation residue and water content. In most cases, the purity exceeds 98 %.

### Principles of green chemistry

- Prevent waste
- Use renewable raw materials
- Minimize energy and resource requirements of chemical processes
- Create safer, less toxic chemicals
- Develop less hazardous synthetic methods
- Design chemicals that do not persist in air and water



### Greener chemical alternatives

The products we create help our customers improve people's lives every day, but we recognize that every product we make also has an environmental impact. That's why we are committed to continually improving the sustainability performance of our products and adopting a greener chemical process. Our latest advances in green chemistry include: bioethanol, 2-methyl tetrahydrofuran, cyclopentyl methyl ether and ethyl lactate.





## Basic Grade Inorganics and Solvents

### Innovative greener solvent alternatives

#### Bioethanol

Produced from grain or sugar cane, we use bioethanol in place of synthetic ethanol. High quality, an affordable price, and ready availability make our bioethanol an obvious choice for a sustainable future.

#### 2-Methyl tetrahydrofuran (Methyl THF)

2-Methyl tetrahydrofuran is a greener alternative to dichloromethane and tetrahydrofuran. It is derived from renewable resources such as corncobs and sugarcane bagasse.

#### Bioethanol

- Produced from grain or sugar cane, a renewable source
- Lower toxicity for users
- Production methods safer for the environment
- Consistently high quality at an affordable price
- Reliable availability (supply risk uncoupled from petrochemical production)
- Offered in various grades: EMPLURA®, EMPARTA®, EMSURE®

#### Methyl THF

- Produced from renewable sources
- Reliable availability (supply risk uncoupled from petrochemical production)
- Less solvent needed due to more efficient extraction and higher reaction yields
- Lower volatility, higher flash point increase user safety
- Limited miscibility in water reduces waste stream





### Cyclopentyl methyl ether (CPME)

Cyclopentyl methyl ether is a greener substitute for tetrahydrofuran, tert-butyl methyl ether, 1,4 dioxane and other ether solvents.

#### CPME

- Resistance to peroxide formation improves laboratory safety
- One-step reaction saves energy and reduces waste water
- More stable than tetrahydrofuran
- More hydrophobic solvent increases yields and selectivity
- Limited miscibility in water reduces waste stream

### Ethyl lactate

Ethyl lactate is a safer and more sustainable alternative to ethyl acetate and acetone. It is an ester of natural L-lactic acid, which is produced by fermentation of sugar.

#### Ethyl lactate

- Increased user safety due to less toxicity (non-carcinogenic)
- No waste due to 100 % biodegradability
- Non-corrosive in contact with metals

# packaging and safe handling

Perfected to protect

For us, packaging is not just an empty vessel for products. It is a fundamental aspect of safety, sustainability and reliability. Hence, we pay as much attention to the quality of our outer materials as to their inner contents. This commitment has led to an exceptional range of packaging options that ensure safe transport, storage and handling, while minimizing environmental impact.

► For more information about PE canisters & Fassetts® see page 61

► For more information about HDPE bottles for solids see page 58



► For more information about stainless steel drums see page 63

► For more information about steel drums and combi drums see page 62

► For more information about aluminum bottles see page 60



► For more information about HDPE bottles for liquids see page 53

► For more information about amber glass bottles see page 52

# Packaging and Safe Handling

## Perfected to protect

### Every detail – optimized and tested

All our packing materials are tailored to their contents and meticulously tested for quality and permeability to preserve the purity of our products. Not only the container, but also the closure, transportation box and withdrawal systems (for solvents) are optimized as a complete packaging concept. Thanks to our high standards, our package testing facility is accredited by the German Institute for Materials Research and Testing (Bundesanstalt für Materialforschung und -prüfung), the authority responsible for the packaging of dangerous goods.

### Your advantages

- Application-oriented packaging materials and volumes
- Convenient, safe and contamination-free handling
- Maximum safety through an extensive portfolio of accessories
- Ecological and economical use of returnable containers where suitable
- Individual user installation or other customized solutions possible



## Product label

Lot number	Trade name	Grade / Application information	H (hazard) and P (precautionary) statements																																																																																																																				
Item name	Order number	Content of one package	Signal word																																																																																																																				
<p><b>K12345678 735</b></p> <p>Lot</p> <p>CpA: 1 l x 0.75 kg M - 00.75 g/ml</p> <p><b>Specifications</b></p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Value</th> <th>Unit</th> <th>Reference</th> </tr> </thead> <tbody> <tr><td>Pure (GC)</td><td>99.9</td><td>%</td><td>norm</td></tr> <tr><td>Water (H)</td><td>0.0002</td><td>%</td><td>max</td></tr> <tr><td>Appearance</td><td>Color</td><td></td><td></td></tr> <tr><td>Temperature</td><td>10</td><td>°C</td><td></td></tr> <tr><td>Density (at 20 °C)</td><td>0.779 - 0.781</td><td></td><td></td></tr> <tr><td>Boiling point</td><td>98.11</td><td>°C</td><td></td></tr> <tr><td>Refractive index</td><td>1.3982</td><td></td><td></td></tr> <tr><td>Acetone sol. benzene</td><td>0.98</td><td>%</td><td></td></tr> <tr><td>Capillary (GC)</td><td>0.95</td><td>%</td><td></td></tr> <tr><td>Distill (GC)</td><td>0.99</td><td>%</td><td></td></tr> <tr><td>Residue (after distillation)</td><td></td><td>%</td><td></td></tr> <tr><td>Al (phenol)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Si (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Na (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Ca (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Cl (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Cr (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Co (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Cu (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Ni (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Mg (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Mn (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Pb (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Sn (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Zn (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Iron (benz)</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Trace metals</td><td>0.0002</td><td>%</td><td></td></tr> <tr><td>Water</td><td>0.0002</td><td>%</td><td></td></tr> </tbody> </table> <p>Made in Germany GAS-No: 110-02-7</p> <p>Merck KGaA, 64271 Darmstadt Germany, Tel. +49(0)6151 73-2440 EMD Millipore Corporation 290 Concord Road, Billerica MA 01821 USA, Tel. +1-978-715-4321</p>	Parameter	Value	Unit	Reference	Pure (GC)	99.9	%	norm	Water (H)	0.0002	%	max	Appearance	Color			Temperature	10	°C		Density (at 20 °C)	0.779 - 0.781			Boiling point	98.11	°C		Refractive index	1.3982			Acetone sol. benzene	0.98	%		Capillary (GC)	0.95	%		Distill (GC)	0.99	%		Residue (after distillation)		%		Al (phenol)	0.0002	%		Si (benz)	0.0002	%		Na (benz)	0.0002	%		Ca (benz)	0.0002	%		Cl (benz)	0.0002	%		Cr (benz)	0.0002	%		Co (benz)	0.0002	%		Cu (benz)	0.0002	%		Ni (benz)	0.0002	%		Mg (benz)	0.0002	%		Mn (benz)	0.0002	%		Pb (benz)	0.0002	%		Sn (benz)	0.0002	%		Zn (benz)	0.0002	%		Iron (benz)	0.0002	%		Trace metals	0.0002	%		Water	0.0002	%		<p><b>1.09666.2500</b></p> <p><b>EMSURE®</b> <b>ACS,ISO,Reag. Ph Eur</b> <b>Cyclohexane</b> for analysis <b>Cyclohexan</b> <b>Ciclohexano</b> <b>Cicloesano</b> <b>Cyclohexaan</b></p> <p>Made in Germany GAS-No: 110-02-7</p> <p>Merck KGaA, 64271 Darmstadt Germany, Tel. +49(0)6151 73-2440 EMD Millipore Corporation 290 Concord Road, Billerica MA 01821 USA, Tel. +1-978-715-4321</p>	<p>2.5 l</p> <p>Barcode: 4 024336 116938</p> <p>M</p>	<p><b>2021/07/31</b></p> <p><b>Danger</b>, Highly flammable liquid and vapour. May be fatal if inhaled and eaten always. Causes skin irritation. May cause an allergic or asthmatic. Voids flammable liquid (highly flammable), Keep away from heat/sunlight/ignition. Avoid contact with skin. NO SMOKING. Grounded (static) and non-sparking equipment. Avoid contact with the environment. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF GAS: BREATHES: Get out of area. Get medical advice/attention. Store in a well-ventilated area. Avoid respiratory (highly) gases.</p> <p><b>Gefahr</b>, Flüssigkeit und Dampf sehr entzündlich. Kann bei Verschlucken und Einatmen in die Atemwege tödlich sein. Verursacht Hautirritation. Kann allergische Reaktionen hervorrufen. Gefahr für Wassergeorgenen mit langfristiger Wirkung. Von Hitze/Funkenspritzer/Flammen/Überschüssen fernhalten. Nicht rauchen. Behälter und its Inhaltstoffe nicht erhitzen. Fernhalten von allen offenen Flammlösungen. NUR FEUER/LÜCKEN. Nicht ausatmen. KEIN Einatmen. KEIN Einatmen. BEI BERÜHRUNG MIT DER HAUT: Mit viel Wasser und Seife waschen. Auslöcher für entzündete Stellen trocknen. Bei einem gut belüfteten Ort aufbewahren. Behälter dicht verschlossen halten.</p> <p><b>Peligro</b>, Líquido y vapores muy inflamables. Puede ser mortal en caso de inhalación y penetración en las vías respiratorias. Provoca irritación cutánea. Puede provocar sensibilización o alergias. Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos. Evitar el contacto con la piel, el fuego, el calor, el fuego abierto y superficies calientes. No fumar. Conectar a tierra antes de manipular el recipiente y del equipo de recepción. Evitar la liberación al medio ambiente. EN CASO DE INGESTIÓN: Engagarse la boca. NO provocar el vómito. EN CASO DE CONTACTO CON LA PIEL: Lavar con agua y jabón abundante. Consultar a un médico. Evitar respirar el vapor. Evitar el contacto con el medio ambiente.</p> <p><b>Danger</b>, Liquid and vapour are highly inflammable. May be fatal if inhaled and eaten always. Causes skin irritation. May cause an allergic or asthmatic. Voids flammable liquid (highly flammable), Keep away from heat/sunlight/ignition. Avoid contact with skin. NO SMOKING. Grounded (static) and non-sparking equipment. Avoid contact with the environment. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF GAS: BREATHES: Get out of area. Get medical advice/attention. Store in a well-ventilated area. Avoid respiratory (highly) gases.</p> <p><b>Gefahr</b>, Flüssigkeit und Dampf sehr entzündlich. 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Armazenar em local bem ventilado. Manter o recipiente bem fechado.</p> <p><b>Pericolo</b>, Liquido e vapor facilmente infiammabili. Può essere letale in caso di inalazione e di penetrazione nelle vie respiratorie. Provoca irritazione cutanea. Può provocare sensibilizzazione o allergie. Molto tossico per gli organismi acquatici con effetti a lungo termine. Evitare l'entrata in contatto con la pelle, il fuoco, il calore, il fuoco aperto e superfici calde. Non fumare. Mettere a terra prima di manipolare il recipiente e il dispositivo di ricezione. Evitare l'inquinamento. IN CASO DI INGESTIONE: ingerire la bocca. NON provocare il vomito. IN CASO DI CONTATTO CON LA PELLE: lavare abbondantemente con acqua e sapone. Consultare un medico. Tenere il recipiente ben chiuso e in luogo ben ventilato.</p> <p><b>Gevaar</b>, Vloeistof en damp zeer ontsteking. Kan dodelijk zijn als de stof is inhaled en de huid wordt aangetast. Verursacht huidirritatie. Kan allergische of astma-achtige reacties veroorzaken. Zeer giftig voor het water levende organismen, met langdurige gevolgen. Vermeden contact met open vlammen, warmte, open vuur, rook, vlammen. NIET roken. Niet inademen. NIET inademen. BIJ BEREIKING VAN DE HAUT: met veel water en zeep wassen. Een arts raadplegen. De omgeving goed ventileren. De goed gesloten bewaard bewaren.</p>
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Product specifications	EC index number	EAN 13 barcode	Hazard pictograms																																																																																																																				

Empirical formulas | Density | Molar mass

## Labels that last

Our labels provide essential information for our customers. So their durability is a top priority. We use varnished paper labels that are resistant to most chemicals, or apply PE labels wherever necessary. All labels are resistant to abrasion, forgery proof, and adhered with glue that is specially developed for use in the chemicals sector. Since June 1, 2015, all our substances and mixtures feature GHS labels.

## GHS: The global label

In the past, inconsistent evaluation criteria in different countries led to identical chemicals being classified as poisonous, harmful to health, or even not harmful. This resulted in conflicting levels of protection for employees, consumers and the environment. Consequently, the United Nations (UN) initiated an effort to create a globally uniform safety standard for chemicals.

First published in the UN's "Purple Book" in December 2003, the Globally Harmonized System (GHS) describes standardized classification and labeling criteria for chemicals, including hazard symbols and safety data sheets. Since its introduction, the GHS has been progressively adopted in different countries. June 1, 2015 was a significant implementation deadline in both the EU and the US. Since all our Inorganics and Solvents carry GHS labels, our customers can work safely and in compliance with these regulations.

# Packaging overview

## From bottles to tanks



### Glass bottles for acids, bases and solvents

- Safe and convenient handling, storage and transportation
- Special shape of the opening allows optimum pouring
- Secure S40 screw cap with tamperproof seal
- Premium amber blank glass remains inert even to aggressive chemicals
- High pressure resistance
- Pulp packaging for safe transport of glass bottles

Strong yet light in weight, our molded fiber trays ensure that chemical bottles are optimally protected during transportation and storage. All our pulp packaging is made from recyclable materials, so it also protects the environment.



### HDPE bottles for acids, bases and solvents

- Made from high-density polyethylene (HDPE)
- Convenient handling and dosage with integrated handle for 2.5 and 5 l bottles
- Narrow base for efficient use of lab space
- Low tare weight facilitates handling and reduces transport costs
- Secure S40 screw cap with tamperproof seal
- High pressure resistance (particularly for 2.5 l bottle with special base geometry)



5 l

### Aluminum bottles for solvents

- Safe and convenient handling, storage and transportation
- Optimum material characteristics avoid interactions with solvents
- Secure S40 screw cap with tamperproof seal
- Low tare weight facilitates handling and reduces transport costs
- No risk of breakage



10 l



25 l



190 l

### Stainless steel drums for solvents

- Optimum material characteristics avoid interactions with solvents
- Returnable drums reduce costs and environmental waste
- Compatible with a variety of withdrawal systems and level sensors
- Optimum emptying characteristics
- Stackable for efficient use of space



# Packaging overview

From bottles to tanks



10 l



25 l



180 / 190 l



25 l



200 l



1,000 l



## Other drums and containers

- Special packaging for higher volume requirements
- Steel drums (10, 25 or 180 / 190 l) with option of PE liner and special coating depending on contents
- PE drums (up to 200 l)
- PE canisters
- 1,000 l intermediate bulk containers (IBCs)
- Larger sizes (up to tank containers or tank trucks) also available

Exemplary packaging. Offering depends on suitability with content.





500 g



1 kg



2.5 kg



5 kg

### HDPE bottles for caustic alkalis and salts

- Made from high-density polyethylene (HDPE)
- Wide opening for easy withdrawal
- Square base allows efficient use of storage space in labs and during transportation
- Compatible with S38 to S85 closure systems



12 kg



25 kg / 50 kg

### Large packaging for caustic alkalis and salts

- Special packaging for higher volume requirements
- PE inliner is produced in clean room conditions to protect contents
- Corrugated board boxes are glued in a water-resistant manner acc. to DIN 53133 to remain stable even under damp conditions
- Robust construction of corrugated board boxes allows stacking



# Quantity Guide

## Safety comes in many sizes

Our extensive variety of packaging types and sizes is unrivaled in the industry. With volumes from 0.05 l to 20,000 l, and materials from glass and HDPE to metal and stainless steel, we can easily cater to your individual requirements. The guide below will help you select the size and material that best suits your application. Whichever you choose, extraordinary safety comes standard.

### Bottles



### Metal drums



### PE drums, canisters etc.



Pack sizes

0.5 l – 5 l

10 l – 190 l

Annual consumption

0.5 l – 100 l

100 l – 1,000 l

Standard packaging

Standard packaging range **one-way packaging**

Stainless steel drums **optional returnable packaging** in Europe

- Advantage: no rinsing / cleaning / disposing
- Return unrinsed with original labels and tightly closed

## Stainless steel drums



## Intermediate bulk containers (IBC)



## Tank trucks



190 l – 20,000 l

> 1,000 l

- Customized products and containers
- Individual processes with rental agreements

# Amber glass bottles

## for acids, bases and solvents

Pack sizes: 0.5 l to 4 l

### Specially developed S40 thread

withstands higher contact pressure and ensures tighter seals

### Specially formed, sharp thread lip

for safe drip free pouring

### Specially treated high quality glass

with extreme durability due to constant wall thickness for highest safety and product quality

### Pour ring for safe and ergonomic withdraw

tension-free manufacturing technology: "bottle out of one drop" to avoid any predetermined breaking point



### New S40 screw cap

Tamper proof closure will remain as ring on the bottle neck

### Long shelf life of contents

due to bottle's impermeability to air and water vapor as well as protection against light

### Unique, clear and complete labeling

with product specifications and all relevant hazard declarations

### Broad and stable base

for safe stand with low point of gravity

## Technical data

### Material:

Amber glass, hydrolytic class 3

### Available packaging size:

0.5 l, 1 l, 2.5 l and 4 l

### Height, diameter and net weight (bottle size):

180 mm, ø 83 mm, approx. 450 g (0.5 l)  
 222 mm, ø 101 mm, approx. 600 g (1 l)  
 258 mm, ø 151 mm, approx. 1140 g (2.5 l)  
 350 mm, ø 162 mm, approx. 1525 g (4 l)

## Safety accessories

Adapter with integrated level sensor for our bottles with S40 thread (supply)	9.67100.2001
Adapter with integrated level sensor for our bottles with S40 thread (solvent disposal)	9.67100.2002
Bottle opening key S40 / S28	1.08801.0001
Display for level sensor	9.67100.2004
Label set for self-labeling lab-mixtures according to GHS, DIN EN ISO & GLP	1.00801.0001
Pouring aid for 1 l and 2.5 l glass bottles with S40 thread (for single-use)	1.02547.0005
Safety carrier for bottles up to 2.5 l	9.20078.0001
Safety carrier for 4 l bottles	1.40140.0001
Withdrawal system for solvents with manual pressure build-up in S40 bottles	1.78178.0001

# HDPE bottles for liquids

## for acids, bases and solvents

Pack sizes: 0.25 l to 5 l



**Specially developed S40 thread**

withstands higher contact pressure and ensures tighter seals

**Specially formed, sharp thread lip**

for safe drip free pouring

**Specially treated high quality HDPE**

with extreme durability, inertness and shock resistance for highest safety and product quality

**Reduced packaging waste (no additional protection material necessary inside cardboard boxes)**

to protect the environment and to benefit from economical advantages

**New S40 screw cap**

Tamper proof closure will remain as ring on the bottle neck

**Integrated handle**

for best pouring properties (for 2.5 l and 5 l)

**For certain chemicals, bottles are colored to protect against UV**

**Unique, clear and complete labeling**

with product specifications and all relevant hazard declarations

**Low bottle weight**

for easy, safe and economic handling

**Special base geometry**

of 2.5 l bottles prevents bulging

### Technical data

**Material:**  
HDPE

**Available packaging size:**  
0.25 l, 0.5 l, 1 l, 2.5 l and 5 l

**Height, diameter and net weight (bottle size):**  
206 mm, ø 101 mm, approx. 66 g (1 l)  
322 mm, ø 125 mm, approx. 145 g (2.5 l)  
330 mm, ø 178 mm, approx. 335 g (5 l)

### Safety accessories

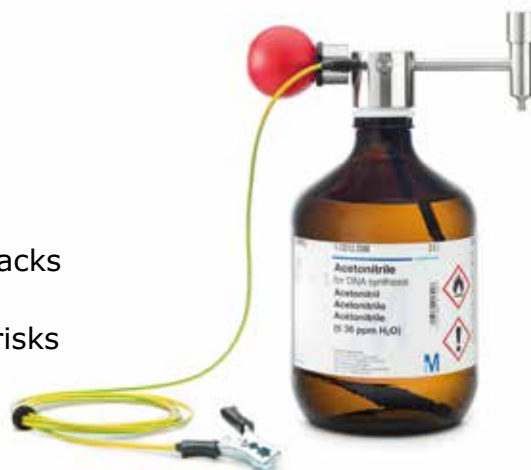
Adapter with integrated level sensor for our bottles with S40 thread (supply)	9.67100.2001
Adapter with integrated level sensor for our bottles with S40 thread (solvent disposal)	9.67100.2002
Bottle opening key S40 / S28	1.08801.0001
Display for level sensor	9.67100.2004
Label set for self-labeling lab-mixtures according to GHS, DIN EN ISO & GLP	1.00801.0001
Safety stand for 2.5 l HDPE bottles	9.67213.0001
Withdrawal system for solvents with manual pressure build-up in S40 bottles	1.78178.0001

# Safety accessories for bottles

To further protect you during daily lab work, we offer several safety accessories specially designed for Merck KGaA, Darmstadt, Germany bottles.

## Withdrawal system for solvents (1.78178.0001)

- Manual pump system for safe and easy withdrawal of solvents (!) from glass bottles
- Specially designed to fit bottles with S40 neck
- Conductive dip tube (included) can be easily adjusted to the size of the bottle
- Conductive dip tubes are also available separately in packs of 5 (1.78179.0001)
- Grounding cable can be easily connected to avoid the risks of static electricity
- Withdrawal system can also be used for 2.5 l HDPE bottles when combined with the safety stand (9.67213.0001)



S40 thread



S28 thread

## Bottle key (1.08801.0001)

- Convenient opening and closing of bottles with S40 and S28 screw caps
- Perfectly tailored to our bottles
- Maximum safety when working with hazardous liquids

## Safety carrier for glass bottles up to 2.5 l (9.20078.0001) and up to 4 l (1.40140.0001)

- Secure transport of broken glass bottles and contents
- High-quality PE foam buffer ensures optimal protection
- Additional time for disposal due to chemical resistant materials
- Robust material avoids risk of cuts by glass splinters
- Leak-proof top cover prevents exposure to liquids and vapors
- Stable, broad handle for convenient handling





### Label set acc. to GHS, DIN EN ISO and GLP (1.00801.0001)

- Comprehensive label compliant with GHS, DIN EN ISO and GLP standards
- Complete safety information at a glance with adhesive pictograms and signal words
- Non-permanent adhesive for easy, residue-free removal
- Robust plastic label, resistant to chemicals



### Pouring aid for 1 l and 2.5 l glass bottles with S40 thread for single-use (1.02547.0005)

- Can be clipped on the bottle neck
- Convenient handling of 1 l and 2.5 l glass bottles
- Suitable for all liquids like acids, bases and solvents
- Is only for single-use and is disposed of with the bottle (1.78178.0001)

### Adapter with integrated level sensor for Merck bottles with S40 thread for solvent supply (9.67100.2001) and for solvent disposal (9.67100.2002)

- Suitable for solvents (!) in all S40 bottles
- The level sensor is pre-assembled in a S40 screw cap
- Equipped with a clamping screw, the sensor can be adjusted to several bottle sizes or also to the desired level
- Needs to be connected to an alarm display for optical and acoustic signalling (9.67100.2004)



# Specials for acids

## Safebreak bottles for acids – Just in case

### The only problem with glass

As containers for many types of reagents, glass bottles offer numerous advantages. They are inert to most chemicals, highly impermeable, easy to sterilize, and reusable. There's just one problem: glass can break. Depending on the contents, this could pose serious health risks for lab personnel.

### Problem solved

Fortunately, we have developed an effective solution: the Safebreak bottle. This computer-designed glass bottle is coated with polyethylene (PE), and can withstand considerable impact force. But should the bottle break, all liquid acid (!) and glass splinters are reliably contained within the PE coating, thereby protecting users from cuts or exposure to harmful chemicals.

### Additional protective features

Every Safebreak bottle is fitted with a S40 screw cap made of polypropylene that has an integrated PTFE component. Even after frequent opening and closing, the cap keeps the bottle absolutely airtight so that no liquid or vapor can escape. Our Safebreak bottle also protects the planet. It can be reused and ecologically disposed of, just as conventional glass. During incineration, the PE is burnt off without affecting the environment.



- **Now also available in 0.5 l and 1 l bottle size** (See ordering information page 72 ff.)
- Can withstand considerable impact force
- Should breakage occur, liquid acid and glass splinters are reliably contained
- Meets all safety requirements
- Maintains high quality of contents
- Can be incorporated in all logistic systems
- Can be reused and ecologically disposed of
- S40 screw cap prevents exposure to liquid or vapors





## HDPE dosage bottle for hydrofluoric acid

Hydrofluoric acid is extremely dangerous. Even small quantities can cause severe injuries and poisoning. To avoid such hazards, we supply hydrofluoric acid in a special 500 ml dosage bottle. It is equipped with a pouring aid that allows safe, drop-by-drop withdrawal of the acid, and the last drop stays reliably in the bottle. Furthermore, our exclusive S40 screw cap ensures that the bottle is completely airtight, thereby preventing exposure to the acid or its vapors.

- 500 ml bottle with a pouring aid specially designed for hydrofluoric acid
- Allows drop-by-drop withdrawal, and last drop stays reliably in the bottle
- S40 screw cap keeps bottle completely airtight



## SafetyCap for reagents that build pressure

Certain reagents, such as sodium hypochlorite solution or hydrogen peroxide, are capable of generating excess pressure through chemical reactions. To help avoid contamination, we supply all such reagents in bottles fitted with the SafetyCap.

This innovative cap has a valve that allows excess gas to be released, hence preventing the build-up of pressure. It is also absolutely leak-proof – even if the bottle is tipped. Furthermore, the PTFE membrane incorporated in the SafetyCap allows neither gas nor liquid to enter the bottle, thus protecting the contents from contamination. For additional safety, all bottles with such reagents are packed in PE bags.

- Allows gas to be released, thereby reducing internal pressure
- Absolutely leak-proof, protects users and the environment from contamination
- Prevents gas and liquid from entering bottle, protects contents from contamination



# HDPE bottles

## for solids

Pack sizes: 0.1 kg to 5 kg



**Wide opening**  
for easy withdrawal

**Specially treated, high-quality HDPE**  
with extreme durability, inertness and shock resistance ensures maximum safety and maintains product quality

**Carrier for 5 kg packaging**  
available separately

**Unique, clear and complete labeling**  
with product specifications and all relevant hazard declarations

**Square base**  
allows optimum use of storage space in the laboratory and during transportation

Technical data				
Material: HDPE				
Available packaging size: 0.1 kg to 5 kg (volume dependent on bulk density of the product)				
Volume	Height	Width	Depth	Net weight
0.25 l	111.5 mm	59 mm	59 mm	26 g
0.45 l	142 mm	70.5 mm	70.5 mm	50 g
0.75 l	142 mm	91 mm	91 mm	min. 49 g
1.10 l	176 mm	90 mm	90 mm	min. 55 g
1.25 l	207 mm	90 mm	90 mm	min. 65 g
1.80 l	170.5 mm	121 mm	121 mm	min. 103 g
2.50 l	219 mm	121 mm	121 mm	min. 103 g
6.00 l	281 mm	180 mm	180 mm	min. 237 g

**Safety accessories**

Wire carrier for widened PE bottles (4 l to 10 l volume)

# Corrugated board box with PE inliner

Pack sizes: 25 kg and 50 kg



## PE inliner

is produced in clean room conditions to protect contents

## Glued in a water-resistant manner acc. to DIN 53133

to remain stable even under damp conditions

## Stackable

## Unique, clear and complete labeling

with product specifications and all relevant hazard declarations

## Robust construction

for convenient and secure packing

### Technical data

Material: Corrugated cardboard, PE bag

Available packaging size: 25 kg and 50 kg (volume dependent on bulk density of the product)

Volume	Height	Width	Depth
26 l	310 mm	370 mm	275 mm
36 l	420 mm	370 mm	275 mm
40 l	330 mm	379 mm	379 mm
44 l	500 mm	370 mm	275 mm
50 l	413 mm	374 mm	374 mm
57 l	640 mm	370 mm	275 mm
60 l	488 mm	374 mm	374 mm
80 l	648 mm	369 mm	369 mm

# Aluminum bottle

## for solvents

**Pack size: 5 l**



### Technical data

**Material:**  
Aluminum

**Available packaging size:**  
5 l

**Height, diameter and net weight:**  
300 mm, ø 175 mm, approx. 285 g

### Safety accessories

Adapter with integrated level sensor for our bottles with S40 thread (supply)	9.67100.2001
Adapter with integrated level sensor for our bottles with S40 thread (solvent disposal)	9.67100.2002
Bottle opening key S40 / S28	1.08801.0001
Display for level sensor	9.67100.2004
Label set for self-labeling lab-mixtures according to GHS, DIN EN ISO & GLP	1.00801.0001

# PE canisters & Fassetts® for acids and bases

Pack sizes: 5 l, 10 l and 25 l

## Safe and easy usage

due to convenient handles on top

## Standard opening

to ensure maximum compatibility

## Unique, clear and complete labeling

with product specifications and all relevant hazard declarations

## High quality PE

for maximum safety and product quality

## Fassett®

specially designed for chemicals which build pressure



## Blue canisters

available for light-sensitive chemicals

► Withdrawal systems for acids and bases see page 66

### Technical data

Parameter	Canister		Fassett®
	5 l	25 l	25 l
Height	24.1 cm	48.8 cm	50 cm
Width	16.5 cm	24.2 cm	28.5 cm
Depth	19.5 cm	29.5 cm	32.9 cm
Volume	5.6 l	27 l	30 l
Filling quantity	5 l	25 l	25 l
Weight (empty)	0.28 kg	1.25 kg	1.5 kg
Number per pallet	72 (4 / cardboard)	11	8
Openings	S 60 x 6	KS 60 x 6	CCS 60 x 6
Material	PE	PE	PE

### Safety accessories

Container key for opening containers with KS 60 x 6 screw cap 1.08804.0001

# Steel drums and combi drums for solvents and acids

Pack sizes: 10 l to 190 l



► Withdrawal systems for acids see page 67; for solvents see page 68

## Technical data

Parameter	10 l	25 l	25 l with PE	180 / 190 l	180 / 190 l with PE
Height	34 cm	52 cm	52 cm	88 cm	88.5 cm
Diameter	24.5 cm	29 cm	29 cm	59.5 cm	58.8 cm
Volume	13.5 l	28 l	28 l	216.5 l	203 l
Filling quantity	10 l	25 l	25 l	180 / 190 l	180 / 190 l
Weight (empty)	1.8 kg	3.6 kg	3.4 kg	22 kg	22 kg
Number per pallet	13	11	11	2	2
Openings	2" decentrally located	2" centrally and 3/4" decentrally located	S56 x 4 (PP)	2" centrally and 3/4" decentrally located (steel, galvanized)	2 x S56x4 (PP)
Material	steel	steel	steel with PE	steel	steel with PE

# Stainless steel drums for solvents

Pack sizes: 10 l to 190 l



► Withdrawal systems for solvents see page 68

## Technical data

Parameter	10 l	25 l	190 l
Height	35 cm	52 cm	88 cm
Diameter	24 cm	29 cm	59.5 cm
Volume	12 l	28 l	215 l
Filling quantity	10 l	25 l	190 l
Weight (empty)	1.9 kg	3.8 kg	18 kg
Number per pallet	15	11	2
Openings	2" decentrally located	2" decentrally located	2" decentrally located 3/4" decentrally located
Material	stainless steel	stainless steel	stainless steel

# Important information for safety and returnable system

If flammable liquids (e.g. solvents) are to be used, the container (10 l or more) must be properly earthed according to valid safety regulations to avoid the risk of explosion and fire. Appropriate measures must be taken to discharge static electricity.

- General warnings and safety instructions must be observed.
- All components (e.g. container and withdrawal system) must be grounded separately in accordance with the applicable safety regulations.
- Grounding clamps must have metallic contact with both the container and the withdrawal system, and a safe ground connection.
- The grounding of the container and the grounding of the withdrawal system must be installed before opening the container.
- The user must always wear conductive personal protective equipment, especially shoes and gloves, to avoid electrostatic charges.
- The floor has to be conductive.
- Sampling vessels made of insulating material with a volume greater than 1 liter should not be used.
- Before using organic solvents, the user must ensure that there are no additional ignition hazards caused by process-specific parameters, such as increased ignitability of the substances due to changed environmental conditions or when sampling in combination with highly charge-generating processes.

These measures reduce the risk of electrostatic separation of charges, and significantly increase safety when handling solvents.

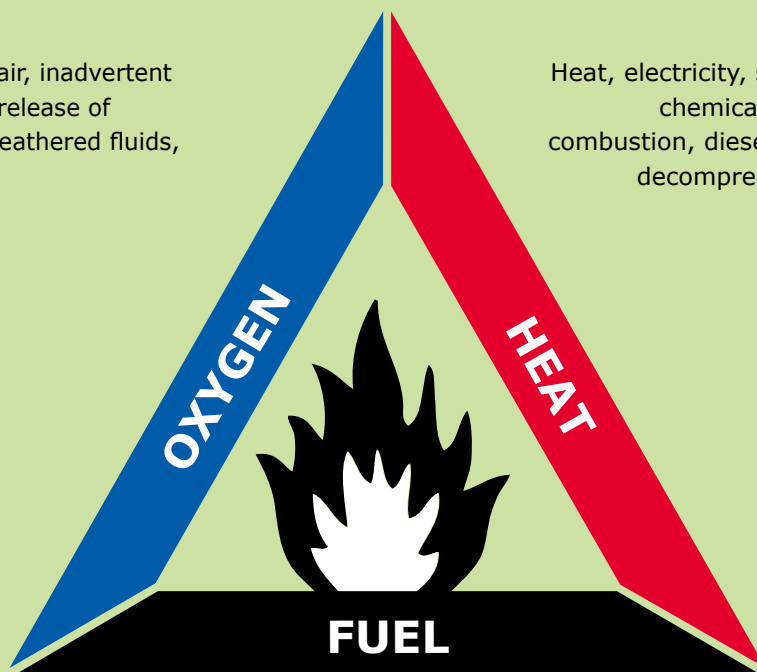
## The fire and explosion triangle

### Oxidizer

Planned introduction of air, inadvertent introduction of oxygen, release of hydrocarbons into air, weathered fluids, oxidizers

### Ignition source

Heat, electricity, static electricity, friction, chemical reactions, spontaneous combustion, dieseling, pyrophors, sudden decompression, catalytic reactions

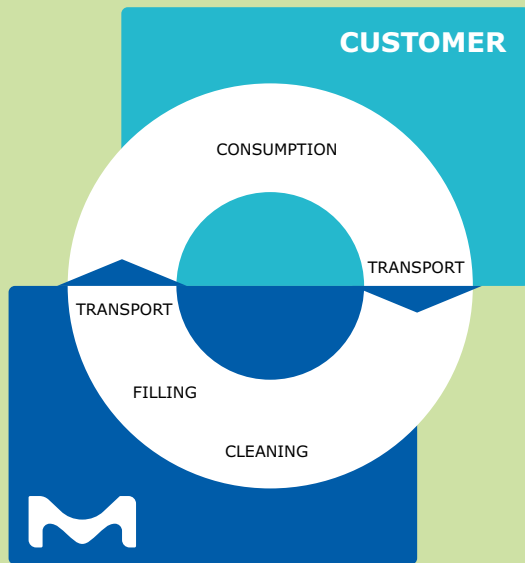


Heavy and light gases, hydrocarbon liquids and vapours, vapours of chemicals / lubricants / solvents, frac oils, flammable materials

**Removing at least one of the component avoids the fire / explosion.**



## The returnable system and process

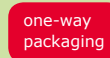


### Easy detection

Symbols for easy detection which packaging material can be returned:

Stainless steel drums are part of a returnable process (in Europe) – optional returnable packaging.

Metal drums are used as one-way packaging.



In Europe Merck KGaA, Darmstadt, Germany stainless steel drums are part of a returnable process. Their use means that the user no longer has to cope with the topics of complete emptying, rinsing, disposing of the rinsing liquid and even disposing of the packaging itself in the proper manner.

After consumption of the solvents on user site the empty drums are returned to us, unrinsed and with their original labels still attached. On their return, we will ensure that they are properly cleaned, checked and refilled. Clear advantages for a time saving and cost effective way of daily solvent handling.



### Important safety advice

Our withdrawal systems have been developed and optimized for the use with containers and solvents from us. We therefore disclaims any warranty or liability for the operability of its withdrawal systems in connection with containers or solvents from other manufacturers.

We reserve the right to refrain from the delivery of withdrawal systems if the respective order does not indicate that each withdrawal system will be used in combination with appropriate solvents and containers from us.

We inform and advise our customers to the best of our knowledge and ability but without any engagement or liability on our part. Our customers must obey all existing laws and regulations. This also applies in respect of any protected rights of third parties. Our information and advice does not eliminate the need for our customers to check, on their own responsibility, that our products are suitable for the purpose envisaged.

# Manual withdrawal systems for acids & bases

**NEW**

The need for greater volumes of acids or bases may require a switch from bottles to larger containers, which increases the risk of spills and accidents. The best way to protect yourself from unintended contact with harmful and often corrosive liquids is through the use of suitable withdrawal systems. Our unique solutions allow you to safely and easily dispense harmful chemicals from large containers into other, typically smaller, reaction vessels, thereby minimizing risks.

- Unique concept allows safe and easy withdrawal of chemicals, preventing accidental contact with contents and vapors
- Flexible, lightweight withdrawal systems with integrated outlet valve and individual pressurizing options
- Integrated check valve protects the pump ball from chemical vapors
- Integrated venting system avoids vacuum development
- No operating supplies required: manual pressure buildup by hand or foot pump ball
- Lower costs through use of larger volumes of 10 l or more

## Manual withdrawal system for acids and bases (PE)

- Made of specially tested high purity polyethylene (PE)
- Suitable for use with all acids and bases (except  $\text{HNO}_3$  and  $\text{H}_2\text{SO}_4$ )



## Examples for individual compilations

25 l Fassett® e.g. 25 l Hydrochloric acid 37 % EMSURE® (1.00317.9026)	25 l PE canisters e.g. 25 l Sodium hydroxide solution about 32 % EMSURE® (1.05590.9025)
Dispense head (PE) for acids and bases, manual pressure build-up	Dispense head (PE) for acids and bases, manual pressure build-up
Hand pump ball for withdrawal systems	Hand pump ball for withdrawal systems
Dip tube (PE) for acids and bases in 25 l fassetts	Dip tube (PE) for acids and bases in 25 l canisters
1.67500.0001	1.67500.0001
9.67114.0000	9.67114.0000
1.67526.0001	1.67525.0001



## Manual withdrawal system especially for Nitric acid and Sulfuric acid (PVDF)

- Made of specially tested high purity polyvinylidene fluoride (PVDF)
- Developed specifically for use with aggressive acids, e.g.  $\text{HNO}_3$  and  $\text{H}_2\text{SO}_4$



### Safe withdrawal in 8 simple steps

Check proper operation

Open the container\*

Insert dip tube and tighten\*

Check outlet valve is closed

Screw in dispensing head and tighten

Place receptacle under the outlet and open the outlet valve

Pressurize by squeezing the red pump ball and fill the receptacle

Close outlet valve

\* use drum key 1.67503.0001

(Always follow local safety regulations and the detailed instructions provided in the manual of the withdrawal system in use.)

### Examples for individual compilations

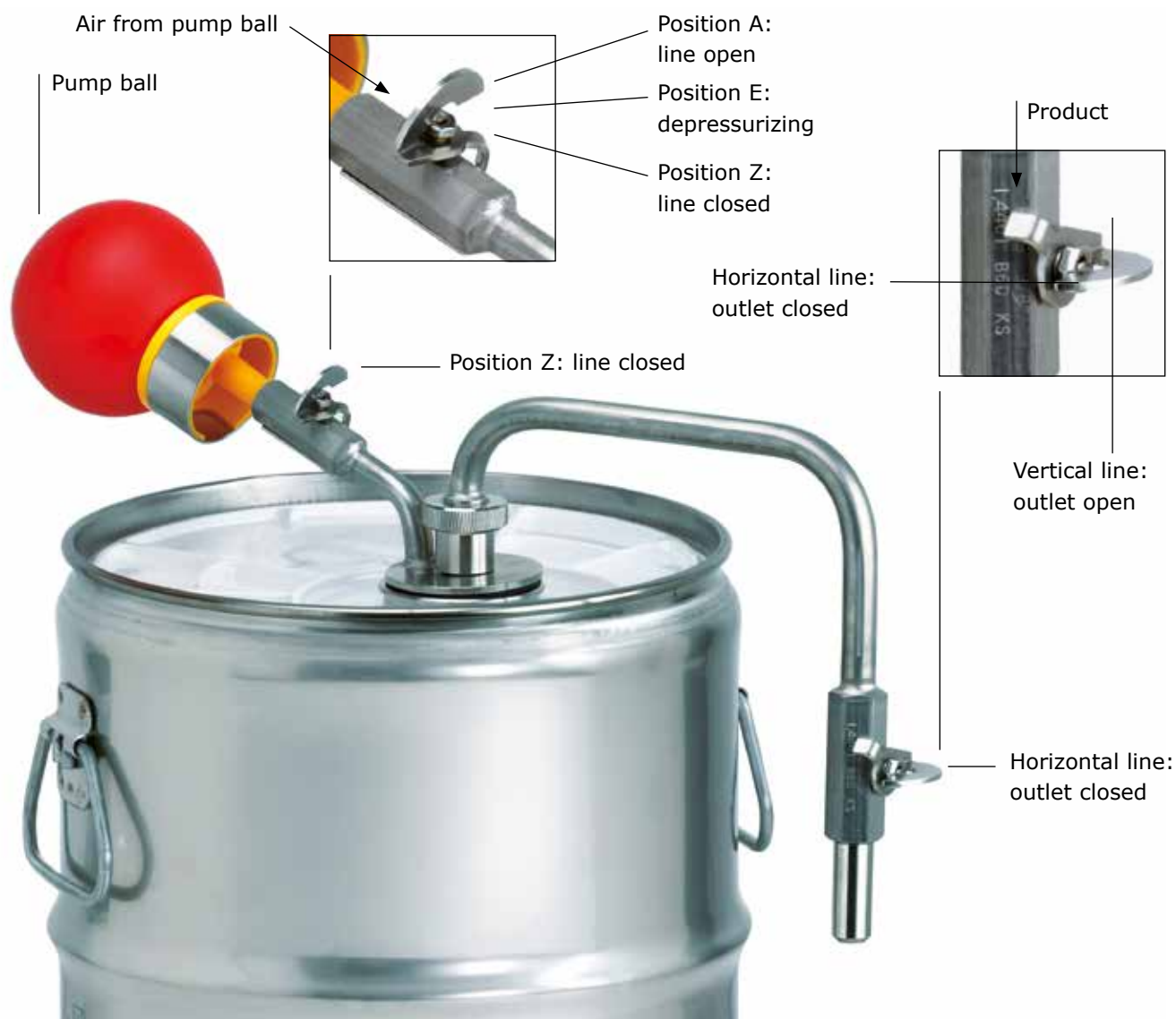
25 l combi containers e.g. 25 l Nitric acid 65 % EMSURE® (1.00456.9026)		180 l combi containers e.g. 180 l Nitric acid 65 % EMSURE® (1.00456.9180)	
Dispense head (PVDF) for Nitric acid and Sulfuric acid, manual pressure build-up	1.67501.0001	Dispense head (PVDF) for Nitric acid and Sulfuric acid, manual pressure build-up	1.67501.0001
Hand pump ball for withdrawal systems	9.67114.0000	Foot pump ball for dispense heads	1.67502.0001
Dip tube (PVDF) for Nitric acid and Sulfuric acid in 25 l combi containers	1.67527.0001	Dip tube (PVDF) for Nitric acid in 180 l combi containers	1.67585.0001

# Withdrawal Systems for solvent drums



## Manual pressure build-up

- Safe, easy and convenient solvent handling
- Usage of tested high quality materials to ensure a reliable, contamination free and safe handling of our solvents
- High flexibility due to independence on gas supply
- Suitable for solvents in 10 l and 25 l metal and stainless steel drums



## System at a glance

Order number	1.01114.0001	Necessary complete products	9.67100.1026 Dip tube for 25 l composite drum (steel/PE)
Suitability	10 l and 25 l metal and stainless steel drums	Recommended safety products	Antistatic set (3 cables) 1.07070.0001 Drum opening key 1.08803.0001
Operation mode	Manual pressure build-up by pump ball	Spare parts	Dip tube for 10 l drums 9.67100.1012 Dip tube for 25 l drums 9.67100.1028 Hand pump ball 9.67114.0000
Set components	Withdrawal system body with 2" clamp, Hand pump ball with rapid action connector, 10 l dip tube, 25 l dip tube		

## Pressurizing with inert gas [only for stainless steel drums]

- Safe, easy and convenient solvent handling
- Usage of tested high quality materials to ensure a reliable, contamination free and safe handling of our solvents
- Construction of a central supply system, direct connection to instruments or individual installations as options

### Self closing tear off connections

for quick connection and disconnection

#### 9.67100.9002

Threaded adapter with vertical connections

Two different connectors for avoiding mismatch of gas and product



#### 9.67106.0001

Stainless steel clamp

Nozzle can be hanged directly on the drum with the clamp



**Safety hook** to avoid unintended solvent supply (push safety hook first to unblock the supply handle)

#### 9.67100.9090

Filling nozzle with stainless steel coated PTFE-tube

### Integrated swivel joints

to avoid tube tensions



## System at a glance

<b>Order number</b>	1.06710.0001		
<b>Suitability</b>	10 l, 25 l and 190 l stainless steel drums	<b>Necessary completeive products</b>	Dip tube for 10 l stainless steel drums 9.67100.1010 Dip tube for 25 l stainless steel drums 9.67100.1025 Dip tube for 190 l stainless steel drums 9.67100.1190
<b>Operation mode</b>	Pressurizing with inert gas (house gas / gas bottle)	<b>Recommended safety products</b>	Stainless steel clamp for filling nozzle attachment to drums 9.67106.0001 Antistatic set (3 cables) 1.07070.0001 Drum opening key 1.08803.0001
<b>Set components</b>	Filling nozzle with stainless steel coated, flexible PTFE-tube (80 cm) 9.67100.9090 Gas feeding tube 9.67100.9051 Threaded adapter with vertical connections 9.67100.9002	<b>Spare parts</b>	Filling nozzle with stainless steel coated, flexible PTFE-tube (80 cm) 9.67100.9090 Gas feeding tube 9.67100.9051 Threaded adapter with horizontal connections 9.67100.9003 Threaded adapter with vertical connections 9.67100.9002

# Withdrawal Systems for solvent drums



## Manual pressure build-up for high volumes

- Safe, easy and convenient solvent handling
- Usage of tested high quality materials to ensure a reliable, contamination free and safe handling of our solvents
- High flexibility due to independence on gas supply



## System at a glance

Order number	1.19171.0001	Necessary complete products	Reducer (PE) from S56 x 4 to 2" thread (for combi drum)	9.67202.0000
Suitability	180 l / 190 l / 200 l metal and stainless steel drums	Recommended safety products	Antistatic set (3 cables)	1.07070.0001
Operation mode	Manual pressure build-up by foot pump ball	Drum opening key		1.08803.0001
Set components	Withdrawal system body with 2" thread Foot pump ball with flexible tube and rapid action connector Adjustable dip tube	Spare parts	-	

# Ordering information

## Inorganics & Solvents

### Acids

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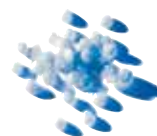
- EMSURE®
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### Caustic alkalis and bases

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### Metals and metal oxides

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### Salts

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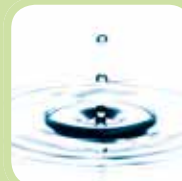
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- EMPLURA®



### Solvents

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- EMPARTA®
- EMPLURA®



# Acids





EMSURE® | EMPARTA® | EMPLURA® acids offer the highest possible quality, greatest safety and optimized packaging – for a multitude of analytical applications. Every product undergoes strict quality checks using the most sensitive instruments and methods.

### **EMSURE®** Acids

Premium Grade

► For more information please have a look at page 20

### **EMPARTA®** Acids

Standard Grade

► For more information please have a look at page 32

### **EMPLURA®** Acids

Basic Grade

► For more information please have a look at page 36

# Ordering information

## Acids

### Acids A-B

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.				
A Acetic acid 30 % for analysis EMSURE® Reag. Ph Eur			500 ml	Glass bottle	1.59166.0500				
			Acetic acid 60 % EMPLURA®	25 l	PE canister	4.80362.9025			
			Acetic acid 96 % for analysis EMSURE®	1 l	Glass bottle	1.00062.1000			
				1 l	HDPE bottle	1.00062.1011			
				2.5 l	Glass bottle	1.00062.2500			
				2.5 l	HDPE bottle	1.00062.2511			
				25 l	PE canister	1.00062.9025			
				200 l	PE drum	1.00062.9200			
				Acetic acid (glacial) 100 % anhydrous for analysis EMSURE® ACS, ISO, Reag. Ph Eur	64-19-7	CH <sub>3</sub> COOH	<b>NEW</b> 500 ml	Safebreak bottle	1.00063.0510
							1 l	Glass bottle	1.00063.1000
<b>NEW</b> 1 l	Safebreak bottle	1.00063.1010							
1 l	HDPE bottle	1.00063.1011							
2.5 l	Glass bottle	1.00063.2500							
2.5 l	Safebreak bottle	1.00063.2510							
Acetic acid (glacial) 100 % for analysis EMPARTA® ACS	64-19-7	CH <sub>3</sub> COOH	<b>NEW</b> 2.5 l	HDPE bottle	1.01830.2500				
			25 l	PE canister	1.01830.9025				
Acetic anhydride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	108-24-7	(CH <sub>3</sub> CO) <sub>2</sub> O	1 l	Glass bottle	1.00042.1000				
			2.5 l	Glass bottle	1.00042.2500				
			25 l	PE canister	1.00042.9025				
Amidosulfuric acid for analysis EMSURE®	5329-14-6	H <sub>2</sub> NSO <sub>3</sub> H	100 g	HDPE bottle	1.00103.0100				
			250 g	HDPE bottle	1.00103.0250				
Amidosulfuric acid EMPLURA®	5329-14-6	H <sub>2</sub> NSO <sub>3</sub> H	2.5 kg	HDPE bottle	1.00219.2500				
			25 kg	Fibre carton	1.00219.9025				
L(+)-Ascorbic acid for analysis EMSURE® ACS, ISO, Reag. Ph Eur	50-81-7	C <sub>6</sub> H <sub>8</sub> O <sub>6</sub>	100 g	HDPE bottle	1.00468.0100				
			500 g	HDPE bottle	1.00468.0500				
			1 kg	HDPE bottle	1.00468.1000				
B Barbituric acid for analysis EMSURE®	67-52-7	C <sub>4</sub> H <sub>4</sub> N <sub>2</sub> O <sub>3</sub>	25 g	HDPE bottle	1.00132.0025				
			100 g	HDPE bottle	1.00132.0100				
Benzoic acid for analysis EMSURE® Reag. Ph Eur	65-85-0	C <sub>6</sub> H <sub>5</sub> COOH	100 g	HDPE bottle	1.00136.0100				
			250 g	HDPE bottle	1.00136.0250				
			1 kg	HDPE bottle	1.00136.1000				
			25 kg	Fibre carton	1.00136.9025				
Boric acid for analysis EMSURE® ACS, ISO, Reag. Ph Eur	10043-35-3	H <sub>3</sub> BO <sub>3</sub>	100 g	HDPE bottle	1.00165.0100				
			500 g	HDPE bottle	1.00165.0500				
			1 kg	HDPE bottle	1.00165.1000				
			5 kg	HDPE bottle	1.00165.5000				
			12 kg	PE bucket	1.00165.9012				
			25 kg	Fibre carton	1.00165.9025				

## Acids C-H

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
C Citric acid monohydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	5949-29-1	$C_6H_8O_7 \cdot H_2O$	500 g	HDPE bottle	1.00244.0500
			1 kg	HDPE bottle	1.00244.1000
			5 kg	HDPE bottle	1.00244.5000
			12 kg	PE bucket	1.00244.9012
			25 kg	Fibre carton	1.00244.9026
F Formic acid 89 – 91 % for analysis EMSURE® ACS			1 l	Glass bottle	1.00253.1000
			Formic acid 90 % for determination of viscosity acc. to DIN EN ISO 307	2.5 l	Glass bottle
Formic acid 98 – 100 % for analysis EMSURE® ACS, Reag. Ph Eur	64-18-6	HCOOH	100 ml	Glass bottle	1.00264.0100
			1 l	Glass bottle	1.00264.1000
			2.5 l	Glass bottle	1.00264.2500
			25 l	PE canister	1.00264.9026
			200 l	PE drum	1.00264.9200
G Glycolic acid for analysis EMSURE®	79-14-1	HOCH <sub>2</sub> COOH	100 g	HDPE bottle	1.04106.0100
H Hydrobromic acid 47 % for analysis EMSURE® ACS, ISO			1 l	Glass bottle	1.00307.1000
Hydrobromic acid 47 % EMPLURA®			500 ml	Glass bottle	1.00304.0500
			2.5 l	Glass bottle	1.00304.2500
			20 l	Carboy	1.00304.9020
Hydrochloric acid 25 % for analysis EMSURE®			1 l	Glass bottle	1.00316.1000
			1 l	HDPE bottle	1.00316.1011
			2.5 l	Glass bottle	1.00316.2500
			2.5 l	HDPE bottle	1.00316.2511
			25 l	PE canister	1.00316.9025
Hydrochloric acid 32 % for analysis EMSURE®			1 l	Glass bottle	1.00319.1000
			1 l	HDPE bottle	1.00319.1011
			2.5 l	Glass bottle	1.00319.2500
			2.5 l	HDPE bottle	1.00319.2511
			25 l	PE canister	1.00319.9025
			200 l	PE drum	1.00319.9200
Hydrochloric acid 32 % EMPLURA®			2.5 l	Glass bottle	1.00313.2500
			25 l	PE canister	1.00313.9025
			180 l	PE drum	1.00313.9180
Hydrochloric acid fuming 37 % for analysis max. 0.001 ppm Hg EMSURE®			2.5 l	Glass bottle	1.13386.2500
Hydrochloric acid fuming 37 % for analysis EMSURE® ACS, ISO, Reag. Ph Eur			<b>NEW</b> 500 ml	Safebreak bottle	1.00317.0510
			1 l	Glass bottle	1.00317.1000
			<b>NEW</b> 1 l	Safebreak bottle	1.00317.1010
			1 l	HDPE bottle	1.00317.1011
			<b>NEW</b> 2 l	HDPE bottle	1.00317.2011
			2.5 l	Glass bottle	1.00317.2500
			2.5 l	Safebreak bottle	1.00317.2510
			25 l	PE canister	1.00317.9026
			200 l	PE drum	1.00317.9200

# Ordering information

## Acids

### Acids H-N

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
H Hydrochloric acid fuming 37 % for analysis EMPARTA® ACS			NEW 2 l	HDPE bottle	1.01834.2011
			2.5 l	Glass bottle	1.01834.2502
			NEW 25 l	PE canister	1.01834.9025
Hydrofluoric acid 38 – 40 % EMPLURA®			1 l	HDPE bottle	1.00337.1000
			2.5 l	HDPE bottle	1.00337.2500
Hydrofluoric acid 40 % for analysis EMSURE® ISO, Reag. Ph Eur			500 ml	HDPE bottle	1.00338.0500
			1 l	HDPE bottle	1.00338.1000
			2.5 l	HDPE bottle	1.00338.2500
Hydrofluoric acid 48 % for analysis EMSURE® ACS, ISO, Reag. Ph Eur			500 ml	HDPE bottle	1.00334.0500
			1 l	HDPE bottle	1.00334.1000
			2.5 l	HDPE bottle	1.00334.2500
			5 l	PE canister	1.00334.5000
Hydrogen peroxide 30 % (Perhydrol™) (stabilized for higher storage temp.) for analysis EMSURE® ISO			250 ml	HDPE bottle	1.07210.0250
			1 l	HDPE bottle	1.07210.1000
			2.5 l	HDPE bottle	1.07210.2500
			25 l	PE canister	1.07210.9025
Hydrogen peroxide 30 % (Perhydrol™) for analysis EMSURE® ISO			250 ml	HDPE bottle	1.07209.0250
			500 ml	HDPE bottle	1.07209.0500
			1 l	HDPE bottle	1.07209.1000
			2.5 l	HDPE bottle	1.07209.2500
Hydrogen peroxide 35 % EMPLURA®			25 l	PE canister	1.08556.9025
Hydroiodic acid 57 % for analysis EMSURE®			250 ml	Glass bottle	1.00344.0250
			1 l	Glass bottle	1.00344.1000
Hydroiodic acid 57 % EMPLURA®			250 ml	Glass bottle	1.00341.0250
			22 l	Carboy	1.00341.9022
Hydroiodic acid 67 % for analysis EMSURE®			250 ml	Glass bottle	1.00345.0250
Hypophosphorous acid 50 % for analysis EMSURE®			500 ml	Glass bottle	1.04633.0500
M Molybdato-phosphoric acid hydrate for analysis EMSURE® ACS, Reag. Ph Eur	51429-74-4	$H_3[P(Mo_3O_{10})_4] \cdot x H_2O$	25 g	Glass bottle	1.00532.0025
			100 g	Glass bottle	1.00532.0100
Molybdic acid about 85 % MoO <sub>3</sub> (containing ammonium molybdate) EMPLURA®	7782-91-4	H <sub>2</sub> MoO <sub>4</sub>	1 kg	HDPE bottle	1.00400.1000
N Nitric acid 65 % for analysis (max. 0.005 ppm Hg) EMSURE® ISO			1 l	Glass bottle	1.00452.1000
			2.5 l	Glass bottle	1.00452.2500
			180 l	PE / Metal drum	1.00452.9180
			NEW 500 ml	Safebreak bottle	1.00456.0510
			1 l	Glass bottle	1.00456.1000
			NEW 1 l	Safebreak bottle	1.00456.1010
			2.5 l	Glass bottle	1.00456.2500
			2.5 l	Safebreak bottle	1.00456.2510
			25 l	PE / Metal drum	1.00456.9026
			180 l	PE / Metal drum	1.00456.9180
Nitric acid 65 % EMPLURA®			1 l	Glass bottle	1.00443.1000
			2.5 l	Glass bottle	1.00443.2500
			25 l	PE / Metal drum	1.00443.9025
			180 l	PE / Metal drum	1.00443.9180

## Acids N-P

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
N			<b>NEW</b> 500 ml	Safebreak bottle	1.01799.0510
			1 l	Glass bottle	1.01799.1000
			<b>NEW</b> 1 l	Safebreak bottle	1.01799.1010
			2.5 l	Glass bottle	1.01799.2500
			2.5 l	Safebreak bottle	1.01799.2510
			180 l	PE / Metal drum	1.01799.9180
Nitric acid 69 % for analysis EMSURE® ACS, Reag. Ph Eur			2.5 l	Glass bottle	1.01832.2500
Nitric acid 69 % for analysis EMPARTA® ACS			<b>NEW</b> 25 l	PE / Metal drum	1.01832.9025
Nitric acid fuming 100 % for analysis EMSURE® Reag. Ph Eur	7697-37-2	HNO <sub>3</sub>	1 l	Glass btl. pl. coat.	1.00455.1000
O	6153-56-6	(COOH) <sub>2</sub> * 2 H <sub>2</sub> O	100 g	HDPE bottle	1.00495.0100
			500 g	HDPE bottle	1.00495.0500
			1 kg	HDPE bottle	1.00495.1000
			25 kg	Fibre carton	1.00495.9025
			1 kg	HDPE bottle	1.00492.1000
Oxalic acid dihydrate EMPLURA®	6153-56-6	(COOH) <sub>2</sub> * 2 H <sub>2</sub> O	5 kg	HDPE bottle	1.00492.5000
			50 kg	Fibre carton	1.00492.9050
P			1 l	Glass bottle	1.00518.1001
			6 x 1 l	Glass bottle	1.00518.1016
			2.5 l	Glass bottle	1.00518.2501
			4 x 2.5 l	Glass bottle	1.00518.2514
Perchloric acid 60 % for analysis EMSURE® ACS			1 l	Glass bottle	1.00514.1000
			6 x 1 l	Glass bottle	1.00514.1006
Perchloric acid 70 % for analysis (max. 0.0000005 % Hg) EMSURE® ACS, ISO, Reag. Ph Eur			<b>NEW</b> 500 ml	Safebreak bottle	1.00519.0510
			1 l	Glass bottle	1.00519.1001
Perchloric acid 70 – 72 % for analysis EMSURE® ACS, ISO, Reag. Ph Eur			<b>NEW</b> 1 l	Safebreak bottle	1.00519.1010
			6 x 1 l	Glass bottle	1.00519.1016
			2.5 l	Glass bottle	1.00519.2501
			4 x 2.5 l	Glass bottle	1.00519.2514
			2.5 l	Safebreak bottle	1.00519.2510
			25 g	Glass bottle	1.00524.0025
Periodic acid for analysis EMSURE®	10450-60-9	H <sub>5</sub> IO <sub>6</sub>	100 g	Glass bottle	1.00524.0100
			100 g	Metal can	1.00546.0100
meta-Phosphoric acid pieces for analysis (stabilized with sodium metaphosphate) EMSURE®			500 g	Metal can	1.00546.0500
			<b>NEW</b> 500 ml	Safebreak bottle	1.00573.0510
ortho-Phosphoric acid 85 % for analysis EMSURE® ACS, ISO, Reag. Ph Eur			1 l	HDPE bottle	1.00573.1000
			2.5 l	HDPE bottle	1.00573.2500
			2.5 l	Safebreak bottle	1.00573.2510
			25 l	PE canister	1.00573.9025
			200 l	PE drum	1.00573.9200
ortho-Phosphoric acid 99 % cryst. for analysis EMSURE®	7664-38-2	H <sub>3</sub> PO <sub>4</sub>	500 g	HDPE bottle	1.00565.0500

# Ordering information

## Acids

### Acids S-T

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
Succinic acid for analysis EMSURE® ACS	110-15-6	HOOCCH <sub>2</sub> CH <sub>2</sub> COOH	250 g	HDPE bottle	1.00682.0250
			500 g	HDPE bottle	1.00682.0500
			25 kg	Fibre carton	1.00682.9025
Sulfuric acid 25 % for analysis EMSURE®			1 l	HDPE bottle	1.00716.1000
			25 l	PE canister	1.00716.9025
Sulfuric acid 40 % for determination of gas metabolism acc. to knipping			2.5 l	Glass bottle	1.09286.2500
			25 l	PE canister	1.09286.9025
Sulfuric acid 62 % for analysis EMSURE®, for the determination of fat in cheese (d 1.52)			1 l	HDPE bottle	4.80531.1000
			2.5 l	HDPE bottle	4.80531.2500
Sulfuric acid 90 – 91 % for gerber fat determination and determination of nitrates in milk			500 ml	Glass bottle	1.00729.0500
			2.5 l	Glass bottle	1.00729.2500
			25 l	PE canister	1.00729.9025
Sulfuric acid 95 – 97 % for analysis (max. 0.005 ppm Hg) EMSURE® ACS, ISO, Reag. Ph Eur	7664-93-9	H <sub>2</sub> SO <sub>4</sub>	<b>NEW</b> 500 ml	Safebreak bottle	1.00732.0510
			1 l	Glass bottle	1.00732.1000
			2.5 l	Glass bottle	1.00732.2500
			2.5 l	Safebreak bottle	1.00732.2510
			25 l	PE canister	1.00732.9025
Sulfuric acid 95 – 97 % for analysis EMSURE® ISO	7664-93-9	H <sub>2</sub> SO <sub>4</sub>	<b>NEW</b> 500 ml	Safebreak bottle	1.00731.0510
			1 l	Glass bottle	1.00731.1000
			<b>NEW</b> 1 l	Safebreak bottle	1.00731.1010
			1 l	HDPE bottle	1.00731.1011
			2.5 l	Glass bottle	1.00731.2500
			2.5 l	Safebreak bottle	1.00731.2510
			2.5 l	HDPE bottle	1.00731.2511
25 l	PE canister	1.00731.9025			
200 l	PE drum	1.00731.9201			
Sulfuric acid 95 – 97% for analysis EMPARTA® ACS	7664-93-9	H <sub>2</sub> SO <sub>4</sub>	2.5 l	HDPE bottle	1.01833.2500
			<b>NEW</b> 25 l	PE canister	1.01833.9025
Sulfuric acid 96 % for the determination of viscosity acc. to DIN EN ISO 307	7664-93-9	H <sub>2</sub> SO <sub>4</sub>	1 l	HDPE bottle	1.08131.1000
			2.5 l	HDPE bottle	1.08131.2500
Sulfuric acid 98 % for analysis EMSURE®	7664-93-9	H <sub>2</sub> SO <sub>4</sub>	<b>NEW</b> 500 ml	Safebreak bottle	1.12080.0510
			1 l	Glass bottle	1.12080.1000
			2.5 l	Glass bottle	1.12080.2500
			2.5 l	Safebreak bottle	1.12080.2510
25 l	PE canister	1.12080.9025			
Sulfuric acid 98 % for the determination of nitrogen	7664-93-9	H <sub>2</sub> SO <sub>4</sub>	500 ml	Glass bottle	1.00748.0500
			2.5 l	Glass bottle	1.00748.2500
Sulfuric acid 100 % for conductivity measurements	7664-93-9	H <sub>2</sub> SO <sub>4</sub>	1 l	Glass bottle	1.12223.1000
Sulfuric acid fuming 65 % SO <sub>3</sub> EMPLURA®	8014-95-7	H <sub>2</sub> SO <sub>4</sub> * SO <sub>3</sub> (1:2)	1 l	Glass btl. pl. coat.	1.00720.1000
Sulfurous acid 5 – 6 % SO <sub>2</sub> for analysis EMSURE®			1 l	Glass bottle	1.00761.1000
			2.5 l	Glass bottle	1.00761.2500
L(+)-Tartaric acid for analysis EMSURE® ACS, ISO, Reag. Ph Eur	87-69-4	HOOCCH(OH)CH(OH)COOH	250 g	HDPE bottle	1.00804.0250
			1 kg	HDPE bottle	1.00804.1000
			5 kg	HDPE bottle	1.00804.5000
			50 kg	Fibre carton	1.00804.9050

## Acids T

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
Toluene-4-sulfonic acid monohydrate for analysis EMSURE® ACS	6192-52-5	CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> SO <sub>3</sub> H * H <sub>2</sub> O	100 g	HDPE bottle	1.09613.0100
			500 g	HDPE bottle	1.09613.0500
Trichloroacetic acid for analysis EMSURE® ACS, Reag. Ph Eur	76-03-9	CCl <sub>3</sub> COOH	100 g	Glass bottle	1.00807.0100
			250 g	Glass bottle	1.00807.0250
			1 kg	Glass bottle	1.00807.1000
Tungstophosphoric acid hydrate for analysis EMSURE®	12501-23-4	H <sub>3</sub> [P(W <sub>3</sub> O <sub>10</sub> ) <sub>4</sub> ] * x H <sub>2</sub> O	100 g	HDPE bottle	1.00583.0100
			250 g	HDPE bottle	1.00583.0250
Tungstophosphoric acid hydrate cryst. EMPLURA®	12501-23-4	H <sub>3</sub> [P(W <sub>3</sub> O <sub>10</sub> ) <sub>4</sub> ] * x H <sub>2</sub> O	100 g	HDPE bottle	1.00582.0100
			25 kg	Fibre carton	1.00582.9025
Tungstosilicic acid hydrate for analysis EMSURE®	12027-43-9	H <sub>4</sub> [Si(W <sub>3</sub> O <sub>10</sub> ) <sub>4</sub> ] * x H <sub>2</sub> O	100 g	HDPE bottle	1.00659.0100



► For more details about our packaging, please see “Packaging and Safe Handling” on page 42



# caustic alkalis and bases





EMSURE® | EMPLURA® Our high-quality caustic alkalis and bases are produced using specially selected raw materials. The range includes sodium and potassium hydroxide pellets and corresponding solutions, as well as ammonia solutions in various concentrations and grades. Simply choose the right product for your application.

**EMSURE®** Caustic alkalis and bases

Premium Grade

► For more information please have a look at page 20

**EMPLURA®** Caustic alkalis and bases

Basic Grade

► For more information please have a look at page 36

# Ordering information

## Caustics and bases

### Caustics and bases A-S

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.	
A			1 l	Glass bottle	1.05432.1000	
			1 l	HDPE bottle	1.05432.1011	
			Ammonia solution 25 % for analysis EMSURE®	2.5 l	Glass bottle	1.05432.2500
			5 l	HDPE bottle	1.05432.5000	
			25 l	PE canister	1.05432.9025	
Ammonia solution 28 – 30 % for analysis EMSURE® ACS, Reag. Ph Eur			1 l	Glass bottle	1.05423.1000	
			2.5 l	Glass bottle	1.05423.2500	
			25 l	PE canister	1.05423.9025	
Ammonia solution 32 % EMPLURA®			180 l	PE / Metal drum	1.05423.9180	
			1 l	Glass bottle	1.05426.1000	
			2.5 l	Glass bottle	1.05426.2500	
			P	1310-58-3	KOH	1 kg
Potassium hydroxide pellets for analysis (max. 0.05 % Na) EMSURE® ACS, Reag. Ph Eur	12 kg	PE bucket				1.05029.9012
50 kg	Fibre carton	1.05029.9050				
Potassium hydroxide pellets for analysis EMSURE®	500 g	HDPE bottle				1.05033.0500
	1 kg	HDPE bottle				1.05033.1000
	5 kg	HDPE bottle	1.05033.5000			
Potassium hydroxide pellets for analysis EMSURE®	1310-58-3	KOH	25 kg	Fibre carton	1.05033.9025	
			50 kg	Fibre carton	1.05033.9050	
			Potassium hydroxide pellets EMPLURA®	1310-58-3	KOH	1 kg
5 kg	HDPE bottle	1.05012.5000				
50 kg	Fibre carton	1.05012.9050				
NEW Potassium hydroxide solution 32 % (max. 0.005% Na) for analysis EMSURE®			1 l	HDPE bottle	1.05501.1000	
			2.5 l	HDPE bottle	1.05501.2500	
Potassium hydroxide solution 47 % for analysis EMSURE®			1 l	HDPE bottle	1.05545.1000	
			25 l	PE canister	1.05545.9025	
S	1310-73-2	NaOH	1 kg	HDPE bottle	1.06469.1000	
			Sodium hydroxide pellets for analysis (max. 0.02 % K) EMSURE® ACS, ISO, Reag. Ph Eur	5 kg	HDPE bottle	1.06469.5000
			12 kg	PE bucket	1.06469.9012	
			50 kg	Fibre carton	1.06469.9050	
			Sodium hydroxide pellets for analysis EMSURE® ISO	1310-73-2	NaOH	500 g
1 kg	HDPE bottle	1.06498.1000				
5 kg	HDPE bottle	1.06498.5000				
Sodium hydroxide pellets for analysis EMSURE® ISO	1310-73-2	NaOH	25 kg	Fibre carton	1.06498.9025	
			50 kg	Fibre carton	1.06498.9050	
Sodium hydroxide pellets EMPLURA®	1310-73-2	NaOH	1 kg	HDPE bottle	1.06462.1000	
			5 kg	HDPE bottle	1.06462.5000	
			50 kg	Fibre carton	1.06462.9050	

## Caustics and bases S-Z

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
Sodium hydroxide granulated EMPLURA®	1310-73-2	NaOH	10 kg	HDPE bottle	1.06467.9010
			50 kg	Fibre carton	1.06467.9050
Sodium hydroxide solution min. 10 % (1.11) for analysis EMSURE®			1 l	HDPE bottle	1.05588.1000
			10 l	PE canister	1.05588.9010
Sodium hydroxide solution 21 % for analysis EMSURE®			25 l	PE canister	1.05593.9025
Sodium hydroxide solution min. 27 % (1.30) for analysis (for the determination of nitrogen) EMSURE®			2.5 l	HDPE bottle	1.05591.2500
			25 l	PE canister	1.05591.9025
NEW Sodium hydroxide solution about 32 % (max. 0.002 % K) for analysis EMSURE®			1 l	HDPE bottle	1.05500.1000
			2.5 l	HDPE bottle	1.05500.2500
Sodium hydroxide solution about 32 % (for the determination of nitrogen) for analysis EMSURE®			2.5 l	HDPE bottle	1.05590.2500
			25 l	PE canister	1.05590.9025
			200 l	PE drum	1.05590.9200
Sodium hydroxide solution about 32 % EMPLURA®			2.5 l	HDPE bottle	1.05587.2500
			5 l	HDPE bottle	1.05587.5000
			25 l	PE canister	1.05587.9025
Sodium hydroxide solution about 36 % for analysis EMSURE®			200 l	PE drum	1.05587.9200
			5 l	HDPE bottle	1.05596.5000
Sodium hydroxide solution min. 45 % for analysis EMSURE®			2.5 l	HDPE bottle	1.11360.2500
			25 l	PE canister	1.11360.9025
Sodium hydroxide solution 50 % for analysis EMSURE®			1 l	HDPE bottle	1.58793.1000
			5 l	HDPE bottle	1.58793.5000
			25 l	PE canister	1.58793.9025
			200 l	PE drum	1.58793.9200



► For more details about our packaging, please see “Packaging and Safe Handling” on page 42

# Metals and Metal oxides



EMSURE® | EMPLURA® metal salts, metals and noble metals are renowned for their high quality and purity. We offer a diverse range of products suitable for a multitude of applications in R&D, production and quality control.

**EMSURE®** Metals and metal oxides

Premium Grade

► For more information please have a look at page 20

**EMPLURA®** Metals and metal oxides

Basic Grade

► For more information please have a look at page 36

# Ordering information

## Metals and metal oxides

### Metals and metal oxides A-L

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
A Aluminium fine powder, stabilized about 2 % fat	7429-90-5	Al	250 g	Metal can	1.01056.0250
			1 kg	Metal can	1.01056.1000
Aluminium (foil) for analysis 0.3 mm thickness, 30 mm width EMSURE®	7429-90-5	Al	250 g	Fibre case	1.01057.0250
			1 kg	Plastic bag	1.01057.1000
Antimony(III) chloride for analysis EMSURE® ACS	10025-91-9	SbCl <sub>3</sub>	250 g	Glass bottle	1.07838.0250
			1 kg	Glass bottle	1.07838.1000
Antimony(III) oxide for analysis EMSURE®	1309-64-4	Sb <sub>2</sub> O <sub>3</sub>	100 g	HDPE bottle	1.07836.0100
			1 kg	HDPE bottle	1.07836.1000
Antimony(III) oxide EMPLURA®	1309-64-4	Sb <sub>2</sub> O <sub>3</sub>	2.5 kg	HDPE bottle	1.07835.2500
			50 kg	Fibre carton	1.07835.9050
B Bismuth(III) oxide EMPLURA®	1304-76-3	Bi <sub>2</sub> O <sub>3</sub>	1 kg	HDPE bottle	1.01862.1000
			25 kg	Fibre carton	1.01862.9025
C Cadmium coarse powder, for analysis and for filling reductors particle size about 0.3-1.6 mm EMSURE®	7440-43-9	Cd	250 g	Metal can	1.02001.0250
			1 kg	Metal can	1.02001.1000
Cadmium granular, for analysis particle size about 3 – 6 mm EMSURE®	7440-43-9	Cd	250 g	Metal can	1.02004.0250
Cesium chloride for analysis EMSURE®	7647-17-8	CsCl	25 g	Glass bottle	1.02038.0025
			100 g	HDPE bottle	1.02038.0100
Cesium chloride EMPLURA®	7647-17-8	CsCl	1 kg	HDPE bottle	1.02041.1000
Cesium nitrate 99+ for analysis EMSURE®	7789-18-6	CsNO <sub>3</sub>	25 g	Glass bottle	1.02856.0025
			1 kg	HDPE bottle	1.02856.1000
Chromium(VI) oxide for analysis EMSURE®	1333-82-0	CrO <sub>3</sub>	250 g	Glass bottle	1.00229.0250
Copper fine powder particle size < 63 MYm (> 230 mesh ASTM) EMSURE®	7440-50-8	Cu	250 g	HDPE bottle	1.02703.0250
			1 kg	HDPE bottle	1.02703.1000
Copper foil about 0.1 mm thickness for analysis EMSURE®	7440-50-8	Cu	250 g	Fibre case	1.02700.0250
Copper(II) oxide granular for analysis EMSURE®	1317-38-0	CuO	500 g	HDPE bottle	1.02768.0500
			100 g	HDPE bottle	1.02766.0100
Copper(II) oxide powder for analysis EMSURE® ACS	1317-38-0	CuO	500 g	HDPE bottle	1.02766.0500
			25 kg	Fibre carton	1.02766.9025
Copper(II) oxide powder EMPLURA®	1317-38-0	CuO	500 g	HDPE bottle	1.02761.0500
			25 kg	PE bucket	1.02761.9025
D Devarda's alloy for analysis EMSURE®	8049-11-4	Cu / Al / Zn	250 g	HDPE bottle	1.05341.0250
			1 kg	HDPE bottle	1.05341.1000
I Iron for analysis reduced, particle size 10 µm EMSURE®	7439-89-6	Fe	100 g	HDPE bottle	1.03819.0100
			500 g	HDPE bottle	1.03819.0500
L Lanthanum(III) oxide EMPLURA®	1312-81-8	La <sub>2</sub> O <sub>3</sub>	100 g	HDPE bottle	1.12220.0100
			500 g	HDPE bottle	1.12220.0500
Lead foil for analysis about 0.25 mm thick EMSURE®	7439-92-1	Pb	500 g	Plastic bag	1.07365.0500
Lead(II) oxide for analysis EMSURE®	1317-36-8	PbO	250 g	HDPE bottle	1.07401.0250
			1 kg	HDPE bottle	1.07401.1000

## Metals and metal oxides L-U

	Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
L	Lead(II) oxide EMPLURA®	1317-36-8	PbO	5 kg	HDPE bottle	1.05658.5000
				50 kg	PE drum	1.05658.9050
	Lithium hydroxide 98 % + for analysis EMSURE®	1310-65-2	LiOH	100 g	HDPE bottle	1.05691.0100
				1 kg	HDPE bottle	1.05691.1000
M	Magnesium foil 0.15 – 0.30 mm thickness, 3 mm wide	7439-95-4	Mg	1 roll	Fibre case	1.05812.0001
				(~ 25 g)		
	Magnesium powder particle size about 0.06 – 0.3 mm	7439-95-4	Mg	1 kg	Metal can	1.05815.1000
	Magnesium oxide for analysis (max. 0.001 % SO <sub>4</sub> ) EMSURE® ACS	1309-48-4	MgO	100 g	HDPE bottle	1.05866.0100
				500 g	HDPE bottle	1.05866.0500
	Magnesium oxide for analysis EMSURE®	1309-48-4	MgO	100 g	HDPE bottle	1.05865.0100
				500 g	HDPE bottle	1.05865.0500
	Manganese(IV) oxide powder EMPLURA®	1313-13-9	MnO <sub>2</sub>	1 kg	Glass bottle	1.05957.1000
				25 kg	Fibre carton	1.05957.9025
	Molybdenum(VI) oxide for analysis EMSURE®	1313-27-5	MoO <sub>3</sub>	100 g	HDPE bottle	1.00403.0100
				500 g	HDPE bottle	1.00403.0500
P	Palladium powdered 99+ for analysis EMSURE®	7440-05-3	Pd	1 g	Glass bottle	1.19225.0001
				5 g	Glass bottle	1.19225.0005
	Platinum black 98+ for analysis EMSURE®	7440-06-4	Pt	5 g	Glass bottle	1.19233.0005
				50 g	HDPE bottle	1.19233.0050
R	Rubidium chloride for analysis EMSURE®	7791-11-9	RbCl	25 g	Glass bottle	1.07615.0025
	Ruthenium(III) chloride hydrate for analysis EMSURE®	14898-67-0	RuCl <sub>3</sub> * x H <sub>2</sub> O	5 g	Glass bottle	1.19247.0005
				25 g	Glass bottle	1.19247.0025
S	Selenium black 99+ for analysis EMSURE®	7782-49-2	Se	50 g	HDPE bottle	1.07714.0050
				250 g	HDPE bottle	1.07714.0250
				1 kg	HDPE bottle	1.07714.1000
	Silver chloride 99+ for analysis EMSURE®	7783-90-6	AgCl	25 g	HDPE bottle	1.19203.0025
				100 g	HDPE bottle	1.19203.0100
				1 kg	HDPE bottle	1.19203.1000
	Silver oxide 99+ for analysis EMSURE®	20667-12-3	Ag <sub>2</sub> O	25 g	HDPE bottle	1.19208.0025
				100 g	HDPE bottle	1.19208.0100
	Sodium rod diameter 2.5 cm (protective liquid: paraffin oil)	7440-23-5	Na	250 g	Glass bottle	1.06260.0250
T	Tin fine powder EMPLURA® (particle size < 71 µm)	7440-31-5	Sn	250 g	HDPE bottle	1.07807.0250
	Tin foil about 0.04 mm thick	7440-31-5	Sn	200 strips	Plastic box	1.07826.0001
	Tin granulated for analysis (particle size about 4 mm) EMSURE® Reag. Ph Eur	7440-31-5	Sn	250 g	HDPE bottle	1.07806.0250
				1 kg	HDPE bottle	1.07806.1000
	Tin(IV) oxide EMPLURA®	18282-10-5	SnO <sub>2</sub>	250 g	HDPE bottle	1.07818.0250
				25 kg	Fibre carton	1.07818.9025
	Titanium(IV) oxide for analysis EMSURE® Reag. Ph Eur	13463-67-7	TiO <sub>2</sub>	1 kg	HDPE bottle	1.00808.1000
				25 kg	Fibre carton	1.00808.9025
				50 kg	Fibre carton	1.00808.9050

# Ordering information

## Metals and metal oxides

### Metals and metal oxides V-Z

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
V Vanadium(V) oxide EMPLURA®	1314-62-1	V <sub>2</sub> O <sub>5</sub>	250 g	HDPE bottle	1.00824.0250
			1 kg	HDPE bottle	1.00824.1000
Y Yttrium oxide 99+ for analysis EMSURE®	1314-36-9	Y <sub>2</sub> O <sub>3</sub>	25 g	HDPE bottle	1.12412.0025
Z Zinc dust particle size < 63 µm EMPLURA®	7440-66-6	Zn	1 kg	HDPE bottle	1.08774.1000
			50 kg	Steel drum	1.08774.9050
Zinc coarse powder for analysis suitable for filling of reductors, particle size about 0.3 – 1.5 mm (14 – 50 mesh ASTM) EMSURE® Reag. Ph Eur	7440-66-6	Zn	250 g	Metal can	1.08756.0250
			1 kg	Metal can	1.08756.1000
Zinc granular for analysis, particle size about 3 – 8 mm EMSURE® ISO	7440-66-6	Zn	500 g	HDPE bottle	1.08780.0500
			1 kg	HDPE bottle	1.08780.1000
Zinc powder for analysis particle size < 45 MYm EMSURE®	7440-66-6	Zn	500 g	Metal can	1.08789.0500
			1 kg	Metal can	1.08789.1000
Zinc sticks, triangular cross section about 8 mm for analysis EMSURE®	7440-66-6	Zn	500 g	Plastic bag	1.08782.0500
			500 g	HDPE bottle	1.08849.0500
Zinc oxide for analysis EMSURE® ACS, Reag. Ph Eur	1314-13-2	ZnO	1 kg	HDPE bottle	1.08849.1000
			25 kg	Fibre carton	1.08849.9025
Zirconium(IV) oxide chloride octahydrate for analysis EMSURE®	13520-92-8	ZrOCl <sub>2</sub> * 8 H <sub>2</sub> O	100 g	HDPE bottle	1.08917.0100

● EMSURE® ● EMPLURA®



- For more details about our packaging, please see “Packaging and Safe Handling” on page 42





EMSURE® | EMPLURA® Salts. We offer an extensive range of inorganic salts for qualitative and quantitative analysis. Each product is manufactured under strictly controlled conditions at our facilities in Darmstadt, Germany, to ensure outstanding analytical purity.

## **EMSURE®** Salts

Premium Grade

► For more information please have a look at page 20

## **EMPLURA®** Salts

Basic Grade

► For more information please have a look at page 36

# Ordering information

## Salts

### Salts A

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
A Aluminium ammonium sulfate dodecahydrate for analysis EMSURE® ACS	7784-26-1	$\text{NH}_4\text{Al}(\text{SO}_4)_2 \cdot 12 \text{H}_2\text{O}$	500 g	HDPE bottle	1.01031.0500
Aluminium hydroxide powder EMPLURA® hydrargillite	21645-51-2	$\text{Al}(\text{OH})_3 \cdot x \text{H}_2\text{O}$	1 kg	HDPE bottle	1.01091.1000
			50 kg	Fibre carton	1.01091.9050
Aluminium nitrate nonahydrate for analysis EMSURE®	7784-27-2	$\text{Al}(\text{NO}_3)_3 \cdot 9 \text{H}_2\text{O}$	500 g	HDPE bottle	1.01063.0500
			50 kg	Fibre carton	1.01063.9050
Aluminium nitrate nonahydrate EMPLURA®	7784-27-2	$\text{Al}(\text{NO}_3)_3 \cdot 9 \text{H}_2\text{O}$	1 kg	HDPE bottle	1.01086.1000
			50 kg	PE canister	1.01086.9050
Aluminium potassium sulfate dodecahydrate for analysis EMSURE® ACS, Reag. Ph Eur	7784-24-9	$\text{KAl}(\text{SO}_4)_2 \cdot 12 \text{H}_2\text{O}$	1 kg	HDPE bottle	1.01047.1000
			25 kg	Fibre carton	1.01047.9025
			500 g	HDPE bottle	1.01116.0500
Ammonium acetate for analysis EMSURE® ACS, Reag. Ph Eur	631-61-8	$\text{CH}_3\text{COONH}_4$	1 kg	HDPE bottle	1.01116.1000
			5 kg	HDPE bottle	1.01116.5000
			12 kg	PE bucket	1.01116.9012
			25 kg	Fibre carton	1.01116.9025
Ammonium acetate EMPLURA®	631-61-8	$\text{CH}_3\text{COONH}_4$	1 kg	HDPE bottle	1.01115.1000
			5 kg	HDPE bottle	1.01115.5000
Ammonium amidosulfonate for analysis (for detection of sulfonamide in blood) EMSURE® ACS, Reag. Ph Eur	7773-06-0	$\text{H}_2\text{NSO}_3\text{NH}_4$	100 g	HDPE bottle	1.01220.0100
Ammonium benzoate EMPLURA®	1863-63-4	$\text{C}_6\text{H}_5\text{COONH}_4$	1 kg	HDPE bottle	1.01118.1000
			50 kg	Fibre carton	1.01118.9050
Ammonium bromide for analysis EMSURE® ACS	12124-97-9	$\text{NH}_4\text{Br}$	1 kg	HDPE bottle	1.01125.1000
			25 kg	Fibre carton	1.01125.9025
Ammonium carbamate for analysis EMSURE®	1111-78-0	$\text{H}_2\text{NCOONH}_4$	500 g	HDPE bottle	1.01134.0500
Ammonium carbonate for analysis EMSURE® ACS, Reag. Ph Eur	10361-29-2		250 g	HDPE bottle	1.59504.0250
			1 kg	HDPE bottle	1.59504.1000
Ammonium cerium(IV) nitrate for analysis EMSURE® ACS, Reag. Ph Eur	16774-21-3	$(\text{NH}_4)_2[\text{Ce}(\text{NO}_3)_6]$	100 g	HDPE bottle	1.02276.0100
			1 kg	HDPE bottle	1.02276.1000
Ammonium cerium(IV) sulfate dihydrate for analysis EMSURE® ACS	10378-47-9	$(\text{NH}_4)_4\text{Ce}(\text{SO}_4)_4 \cdot 2 \text{H}_2\text{O}$	100 g	HDPE bottle	1.02273.0100
			500 g	HDPE bottle	1.01145.0500
			1 kg	HDPE bottle	1.01145.1000
Ammonium chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	12125-02-9	$\text{NH}_4\text{Cl}$	5 kg	HDPE bottle	1.01145.5000
			25 kg	Fibre carton	1.01145.9025
			50 kg	Fibre carton	1.01145.9050
			500 g	HDPE bottle	1.01126.0500
Ammonium dihydrogen phosphate for analysis EMSURE® ACS, Reag. Ph Eur	7722-76-1	$(\text{NH}_4)_2\text{H}_2\text{PO}_4$	5 kg	HDPE bottle	1.01126.5000
			50 kg	Fibre carton	1.01126.9050
			250 g	HDPE bottle	1.01164.0250
Ammonium fluoride for analysis EMSURE® ACS	12125-01-8	$\text{NH}_4\text{F}$	1 kg	HDPE bottle	1.01164.1000
			25 kg	Fibre carton	1.01164.9025

## Salts A-B

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
A di-Ammonium hydrogen citrate for analysis EMSURE® ACS, Reag. Ph Eur	3012-65-5	$C_6H_8O_7 \cdot 2 NH_3$	500 g	HDPE bottle	1.01154.0500
			2.5 kg	HDPE bottle	1.01154.2500
			25 kg	Fibre carton	1.01154.9025
di-Ammonium hydrogen phosphate for analysis EMSURE® ACS, Reag. Ph Eur	7783-28-0	$(NH_4)_2HPO_4$	500 g	HDPE bottle	1.01207.0500
			25 kg	Fibre carton	1.01207.9025
			50 kg	Fibre carton	1.01207.9050
Ammonium iron(III) sulfate dodecahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7783-83-7	$(NH_4)Fe(SO_4)_2 \cdot 12 H_2O$	500 g	HDPE bottle	1.03776.0500
			1 kg	HDPE bottle	1.03776.1000
			5 kg	HDPE bottle	1.03776.5000
			12 kg	PE bucket	1.03776.9012
Ammonium iron(II) sulfate hexahydrate for analysis EMSURE® ISO	7783-85-9	$(NH_4)_2Fe(SO_4)_2 \cdot 6 H_2O$	500 g	HDPE bottle	1.03792.0500
			1 kg	HDPE bottle	1.03792.1000
			5 kg	HDPE bottle	1.03792.5000
Ammonium nitrate for analysis EMSURE® ACS	6484-52-2	$NH_4NO_3$	500 g	HDPE bottle	1.01188.0500
			1 kg	HDPE bottle	1.01188.1000
			5 kg	HDPE bottle	1.01188.5000
Ammonium nitrate EMPLURA®	6484-52-2	$NH_4NO_3$	1 kg	HDPE bottle	1.01187.1000
			5 kg	HDPE bottle	1.01187.5000
di-Ammonium oxalate monohydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	6009-70-7	$(NH_4)_2C_2O_4 \cdot H_2O$	250 g	HDPE bottle	1.01192.0250
			1 kg	HDPE bottle	1.01192.1000
di-Ammonium oxalate monohydrate EMPLURA®	6009-70-7	$(NH_4)_2C_2O_4 \cdot H_2O$	1 kg	HDPE bottle	1.01190.1000
			50 kg	Fibre carton	1.01190.9050
Ammonium peroxodisulfate for analysis EMSURE® ACS, Reag. Ph Eur	7727-54-0	$(NH_4)_2S_2O_8$	500 g	HDPE bottle	1.01201.0500
			1 kg	HDPE bottle	1.01201.1000
			5 kg	HDPE bottle	1.01201.5000
Ammonium peroxodisulfate EMPLURA®	7727-54-0	$(NH_4)_2S_2O_8$	12 kg	PE bucket	1.01201.9012
			1 kg	HDPE bottle	1.01200.1000
			5 kg	HDPE bottle	1.01200.5000
Ammonium sulfate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7783-20-2	$(NH_4)_2SO_4$	25 kg	PE bucket	1.01200.9025
			100 g	HDPE bottle	1.01217.0100
			1 kg	HDPE bottle	1.01217.1000
			5 kg	HDPE bottle	1.01217.5000
Ammonium thiocyanate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	1762-95-4	$NH_4SCN$	25 kg	Fibre carton	1.01217.9025
			500 g	HDPE bottle	1.01213.0500
			25 kg	Fibre carton	1.01213.9025
B Barium acetate for analysis EMSURE® ACS	543-80-6	$Ba(CH_3COO)_2$	500 g	HDPE bottle	1.01704.0500
Barium carbonate for analysis EMSURE® ACS, Reag. Ph Eur	513-77-9	$BaCO_3$	250 g	HDPE bottle	1.01714.0250
			1 kg	HDPE bottle	1.01714.1000
			25 kg	Fibre carton	1.01714.9025

# Ordering information

## Salts

### Salts B-C

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
B Barium chloride dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	10326-27-9	BaCl <sub>2</sub> * 2 H <sub>2</sub> O	500 g	HDPE bottle	1.01719.0500
			1 kg	HDPE bottle	1.01719.1000
			5 kg	HDPE bottle	1.01719.5000
			50 kg	Fibre carton	1.01719.9050
Barium chloride dihydrate EMPLURA®	10326-27-9	BaCl <sub>2</sub> * 2 H <sub>2</sub> O	1 kg	HDPE bottle	1.01717.1000
Barium hydroxide octahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	12230-71-6	Ba(OH) <sub>2</sub> * 8 H <sub>2</sub> O	500 g	HDPE bottle	1.01737.0500
Barium hydroxide octahydrate EMPLURA®	12230-71-6	Ba(OH) <sub>2</sub> * 8 H <sub>2</sub> O	1 kg	HDPE bottle	1.01735.1000
Barium nitrate for analysis EMSURE® ACS	10022-31-8	Ba(NO <sub>3</sub> ) <sub>2</sub>	500 g	HDPE bottle	1.01729.0500
			50 kg	Fibre carton	1.01729.9050
Barium perchlorate anhydrous for analysis EMSURE®	13465-95-7	Ba(ClO <sub>4</sub> ) <sub>2</sub>	250 g	Metal can	1.01738.0250
			1 kg	Metal can	1.01738.1000
Bismuth(III) nitrate alkaline for analysis EMSURE® Reag. Ph Eur	1304-85-4	Bi <sub>5</sub> O(OH) <sub>9</sub> (NO <sub>3</sub> ) <sub>4</sub>	100 g	HDPE bottle	1.01878.0100
C Cadmium acetate dihydrate for analysis EMSURE®	5743-04-4	(CH <sub>3</sub> COO) <sub>2</sub> Cd * 2 H <sub>2</sub> O	500 g	HDPE bottle	1.02003.0500
Cadmium oxide EMPLURA®	1306-19-0	CdO	5 kg	Metal can	1.02015.5000
Cadmium sulfate hydrate for analysis EMSURE® ACS	7790-84-3	3 CdSO <sub>4</sub> * 8 H <sub>2</sub> O	100 g	HDPE bottle	1.02027.0100
			250 g	HDPE bottle	1.02066.0250
Calcium carbonate precipitated for analysis EMSURE® Reag. Ph Eur	471-34-1	CaCO <sub>3</sub>	1 kg	HDPE bottle	1.02066.1000
			50 kg	Fibre carton	1.02066.9050
			500 g	HDPE bottle	1.02067.0500
Calcium chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur	10035-04-8	CaCl <sub>2</sub> * 2 H <sub>2</sub> O	250 g	HDPE bottle	1.02382.0250
			500 g	HDPE bottle	1.02382.0500
			1 kg	HDPE bottle	1.02382.1000
			5 kg	HDPE bottle	1.02382.5000
			25 kg	Fibre carton	1.02382.9025
			500 g	HDPE bottle	1.02047.0500
Calcium hydroxide for analysis EMSURE® ACS, Reag. Ph Eur	1305-62-0	Ca(OH) <sub>2</sub>	1 kg	HDPE bottle	1.02047.1000
			50 kg	Fibre carton	1.02047.9050
			500 g	HDPE bottle	1.02121.0500
Calcium nitrate tetrahydrate for analysis EMSURE® ACS	13477-34-4	Ca(NO <sub>3</sub> ) <sub>2</sub> * 4 H <sub>2</sub> O	5 kg	HDPE bottle	1.02121.5000
			50 kg	Fibre carton	1.02121.9050
			5 kg	HDPE bottle	1.02120.5000
Calcium nitrate tetrahydrate EMPLURA®	13477-34-4	Ca(NO <sub>3</sub> ) <sub>2</sub> * 4 H <sub>2</sub> O	5 kg	HDPE bottle	1.02120.5000
Calcium sulfate dihydrate precipitated for analysis EMSURE®	10101-41-4	CaSO <sub>4</sub> * 2 H <sub>2</sub> O	500 g	HDPE bottle	1.02161.0500
			25 kg	Fibre carton	1.02161.9025
Cerium(IV) sulfate tetrahydrate for analysis EMSURE®	10294-42-5	Ce(SO <sub>4</sub> ) <sub>2</sub> * 4 H <sub>2</sub> O	25 g	HDPE bottle	1.02274.0025
			100 g	HDPE bottle	1.02274.0100
			250 g	HDPE bottle	1.02274.0250
Chromium(III) nitrate nonahydrate for analysis EMSURE®	7789-02-8	Cr(NO <sub>3</sub> ) <sub>3</sub> * 9 H <sub>2</sub> O	250 g	HDPE bottle	1.02481.0250

## Salts C-I

	Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
C	Chromium(III) potassium sulfate dodecahydrate for analysis EMSURE® ACS, Reag. Ph Eur	7788-99-0	KCr(SO <sub>4</sub> ) <sub>2</sub> * 12 H <sub>2</sub> O	250 g	HDPE bottle	1.01036.0250
	Cobalt(II) acetate tetrahydrate for analysis EMSURE® ACS	6147-53-1	(CH <sub>3</sub> COO) <sub>2</sub> Co * 4 H <sub>2</sub> O	100 g	HDPE bottle	1.02529.0100
				250 g	HDPE bottle	1.02539.0100
	Cobalt(II) chloride hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur	7791-13-1	CoCl <sub>2</sub> * 6 H <sub>2</sub> O	50 g	HDPE bottle	1.02554.0050
				250 g	HDPE bottle	1.02554.0250
	Cobalt(II) nitrate hexahydrate for analysis (max. 0.001 % Ni) EMSURE® ACS, Reag. Ph Eur	10026-22-9	Co(NO <sub>3</sub> ) <sub>2</sub> * 6 H <sub>2</sub> O	100 g	HDPE bottle	1.02536.0100
				250 g	HDPE bottle	1.02536.0250
	Cobalt(II) sulfate heptahydrate for analysis EMSURE®	10026-24-1	CoSO <sub>4</sub> * 7 H <sub>2</sub> O	100 g	HDPE bottle	1.02556.0100
				250 g	HDPE bottle	1.02556.0250
	Copper(II) acetate monohydrate for analysis EMSURE® ACS	6046-93-1	(CH <sub>3</sub> COO) <sub>2</sub> Cu * H <sub>2</sub> O	250 g	HDPE bottle	1.02711.0250
				25 kg	Fibre carton	1.02711.9025
	Copper(II) acetate monohydrate cryst. EMPLURA®	6046-93-1	(CH <sub>3</sub> COO) <sub>2</sub> Cu * H <sub>2</sub> O	500 g	HDPE bottle	1.02710.0500
				50 kg	Fibre carton	1.02710.9050
	Copper(I) chloride for analysis EMSURE® ACS	7758-89-6	CuCl	250 g	HDPE bottle	1.02739.0250
				25 kg	Fibre carton	1.02739.9025
Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur	10125-13-0	CuCl <sub>2</sub> * 2 H <sub>2</sub> O	250 g	HDPE bottle	1.02733.0250	
			1 kg	HDPE bottle	1.02733.1000	
Copper(II) nitrate trihydrate for analysis EMSURE®	10031-43-3	Cu(NO <sub>3</sub> ) <sub>2</sub> * 3 H <sub>2</sub> O	250 g	HDPE bottle	1.02753.0250	
			1 kg	HDPE bottle	1.02753.1000	
Copper(II) sulfate anhydrous for analysis EMSURE®	7758-98-7	CuSO <sub>4</sub>	250 g	HDPE bottle	1.02791.0250	
			1 kg	HDPE bottle	1.02791.1000	
Copper(II) sulfate pentahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7758-99-8	CuSO <sub>4</sub> * 5 H <sub>2</sub> O	250 g	HDPE bottle	1.02790.0250	
			1 kg	HDPE bottle	1.02790.1000	
			5 kg	HDPE bottle	1.02790.5000	
			50 kg	Fibre carton	1.02790.9050	
I	Iron(III) chloride hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur	10025-77-1	FeCl <sub>3</sub> * 6 H <sub>2</sub> O	250 g	HDPE bottle	1.03943.0250
				1 kg	HDPE bottle	1.03943.1000
				25 kg	PE drum	1.03943.9025
Iron(III) chloride solution (10 % Fe) for analysis EMSURE®				250 ml	HDPE bottle	1.05512.0250
Iron(II) chloride tetrahydrate for analysis EMSURE®	13478-10-9	FeCl <sub>2</sub> * 4 H <sub>2</sub> O	250 g	HDPE bottle	1.03861.0250	
			1 kg	HDPE bottle	1.03861.1000	
Iron(III) nitrate nonahydrate for analysis EMSURE® ACS, Reag. Ph Eur	7782-61-8	Fe(NO <sub>3</sub> ) <sub>3</sub> * 9 H <sub>2</sub> O	50 kg	PE drum	1.03861.9050	
			250 g	HDPE bottle	1.03883.0250	
1 kg	HDPE bottle	1.03883.1000				
Iron(III) phosphate for analysis calcined (max. 0.001 % SO <sub>4</sub> ) EMSURE®	10045-86-0	FePO <sub>4</sub>	500 g	HDPE bottle	1.03935.0500	

# Ordering information

## Salts

### Salts I-M

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
I  Iron(II) sulfate heptahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7782-63-0	$\text{FeSO}_4 \cdot 7 \text{H}_2\text{O}$	100 g	HDPE bottle	1.03965.0100
			500 g	HDPE bottle	1.03965.0500
			1 kg	HDPE bottle	1.03965.1000
			5 kg	HDPE bottle	1.03965.5000
			25 kg	PE drum	1.03965.9025
L  Lead(II) acetate trihydrate for analysis EMSURE® ACS, Reag. Ph Eur	6080-56-4	$(\text{CH}_3\text{COO})_2\text{Pb} \cdot 3 \text{H}_2\text{O}$	250 g	HDPE bottle	1.07375.0250
			1 kg	HDPE bottle	1.07375.1000
	598-63-0	$\text{PbCO}_3$	250 g	HDPE bottle	1.07381.0250
			1 kg	HDPE bottle	1.07414.1000
	51404-69-4	$(\text{CH}_3\text{COO})_2\text{Pb} \cdot \text{Pb}(\text{OH})_2$	30 kg	Fibre carton	1.07414.9030
			100 g	HDPE bottle	1.07398.0100
	10099-74-8	$\text{Pb}(\text{NO}_3)_2$	1 kg	HDPE bottle	1.07398.1000
			250 g	HDPE bottle	1.05680.0250
	554-13-2	$\text{Li}_2\text{CO}_3$	50 kg	Fibre carton	1.05670.9050
			100 g	HDPE bottle	1.05679.0100
Lithium chloride for analysis EMSURE® ACS, Reag. Ph Eur	7447-41-8	$\text{LiCl}$	250 g	HDPE bottle	1.05679.0250
			12 kg	PE bucket	1.05679.9012
			250 g	HDPE bottle	1.05694.0250
Lithium sulfate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur	10102-25-7	$\text{Li}_2\text{SO}_4 \cdot \text{H}_2\text{O}$	250 g	HDPE bottle	1.05819.0250
			1 kg	HDPE bottle	1.05819.1000
M  Magnesium acetate tetrahydrate for analysis EMSURE® ACS, Reag. Ph Eur	16674-78-5	$(\text{CH}_3\text{COO})_2\text{Mg} \cdot 4 \text{H}_2\text{O}$	50 kg	Fibre carton	1.05819.9050
			250 g	HDPE bottle	1.05833.0250
			1 kg	HDPE bottle	1.05833.1000
			5 kg	HDPE bottle	1.05833.5000
			25 kg	Fibre carton	1.05833.9025
Magnesium chloride hexahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7791-18-6	$\text{MgCl}_2 \cdot 6 \text{H}_2\text{O}$	250 g	HDPE bottle	1.05827.0250
			25 kg	Fibre carton	1.05827.9025
			500 g	HDPE bottle	1.05853.0500
Magnesium nitrate hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur	13446-18-9	$\text{Mg}(\text{NO}_3)_2 \cdot 6 \text{H}_2\text{O}$	25 kg	PE drum	1.05853.9025
			100 g	Metal can	1.05874.0100
Magnesium perchlorate hydrate [about 83 % $\text{Mg}(\text{ClO}_4)_2$ ] for analysis EMSURE®	64010-42-0	$\text{Mg}(\text{ClO}_4)_2 \cdot x \text{H}_2\text{O}$	500 g	Metal can	1.05874.0500
			1 kg	Glass bottle	1.06067.1000
Magnesium sulfate anhydrous for analysis EMSURE®	7487-88-9	$\text{MgSO}_4$	25 kg	PE drum	1.06067.9025
			500 g	HDPE bottle	1.05886.0500
Magnesium sulfate heptahydrate for analysis EMSURE® ACS, Reag. Ph Eur	10034-99-8	$\text{MgSO}_4 \cdot 7 \text{H}_2\text{O}$	1 kg	HDPE bottle	1.05886.1000
			5 kg	HDPE bottle	1.05886.5000
			50 kg	Fibre carton	1.05886.9050
Manganese(II) chloride dihydrate for analysis EMSURE®	20603-88-7	$\text{MnCl}_2 \cdot 2 \text{H}_2\text{O}$	100 g	HDPE bottle	1.05934.0100
			1 kg	HDPE bottle	1.05934.1000



## Salts M-N

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
M Manganese(II) chloride tetrahydrate for analysis EMSURE® ACS	13446-34-9	MnCl <sub>2</sub> * 4 H <sub>2</sub> O	100 g	HDPE bottle	1.05927.0100
			1 kg	HDPE bottle	1.05927.1000
Manganese(II) nitrate tetrahydrate for analysis EMSURE®	20694-39-7	Mn(NO <sub>3</sub> ) <sub>2</sub> * 4 H <sub>2</sub> O	500 g	HDPE bottle	1.05940.0500
			1 kg	HDPE bottle	1.05940.1000
			25 kg	Metal drum	1.05940.9025
Manganese(II) sulfate monohydrate spray-dried for analysis EMSURE® ACS, Reag. Ph Eur	10034-96-5	MnSO <sub>4</sub> * H <sub>2</sub> O	250 g	HDPE bottle	1.05941.0250
			25 kg	Fibre carton	1.05941.9025
Manganese(II) sulfate tetrahydrate for analysis EMSURE®	10101-68-5	MnSO <sub>4</sub> * 4 H <sub>2</sub> O	1 kg	HDPE bottle	1.02786.1000
			25 kg	Fibre carton	1.02786.9025
Mercury for analysis and for polarography EMSURE®	7439-97-6	Hg	250 g	HDPE bottle	1.04403.0250
			1 kg	HDPE bottle	1.04403.1000
Mercury EMPLURA®	7439-97-6	Hg	250 g	HDPE bottle	1.04401.0250
			1 kg	HDPE bottle	1.04401.1000
Mercury(II) acetate for analysis EMSURE® ACS, Reag. Ph Eur	1600-27-7	Hg(CH <sub>3</sub> COO) <sub>2</sub>	50 g	HDPE bottle	1.04410.0050
			250 g	HDPE bottle	1.04410.0250
Mercury(II) bromide for analysis EMSURE® ACS, Reag. Ph Eur	7789-47-1	HgBr <sub>2</sub>	50 g	HDPE bottle	1.04421.0050
			250 g	HDPE bottle	1.04421.0250
Mercury(II) chloride for analysis EMSURE® Reag. Ph Eur, ACS	7487-94-7	HgCl <sub>2</sub>	50 g	HDPE bottle	1.04419.0050
			250 g	HDPE bottle	1.04419.0250
			1 kg	HDPE bottle	1.04419.1000
Mercury(II) chloride EMPLURA® fine cryst.	7487-94-7	HgCl <sub>2</sub>	100 g	HDPE bottle	1.04417.0100
Mercury(II) iodide red, for analysis EMSURE® ACS, Reag. Ph Eur	7774-29-0	HgI <sub>2</sub>	50 g	HDPE bottle	1.04428.0050
			250 g	HDPE bottle	1.04428.0250
Mercury(II) iodide red EMPLURA®	7774-29-0	HgI <sub>2</sub>	100 g	HDPE bottle	1.04420.0100
			1 kg	HDPE bottle	1.04420.1000
Mercury(II) nitrate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur	7783-34-8	Hg(NO <sub>3</sub> ) <sub>2</sub> * H <sub>2</sub> O	50 g	HDPE bottle	1.04439.0050
			250 g	HDPE bottle	1.04439.0250
Mercury(II) oxide red, for analysis EMSURE®	21908-53-2	HgO	50 g	HDPE bottle	1.04466.0050
			250 g	HDPE bottle	1.04466.0250
Mercury(II) sulfate for analysis EMSURE® ACS	7783-35-9	HgSO <sub>4</sub>	50 g	HDPE bottle	1.04480.0050
			250 g	HDPE bottle	1.04480.0250
Mercury(II) sulfate EMPLURA®	7783-35-9	HgSO <sub>4</sub>	100 g	HDPE bottle	1.04481.0100
			250 g	HDPE bottle	1.04481.0250
			1 kg	HDPE bottle	1.04481.1000
Mercury(II) thiocyanate for analysis EMSURE® Reag. Ph Eur	592-85-8	Hg(SCN) <sub>2</sub>	25 g	HDPE bottle	1.04484.0025
			100 g	HDPE bottle	1.04484.0100
N Nickel(II) chloride hexahydrate for analysis EMSURE® ACS	7791-20-0	NiCl <sub>2</sub> * 6 H <sub>2</sub> O	250 g	HDPE bottle	1.06717.0250
			1 kg	HDPE bottle	1.06717.1000
Nickel(II) nitrate hexahydrate for analysis EMSURE® ACS	13478-00-7	Ni(NO <sub>3</sub> ) <sub>2</sub> * 6 H <sub>2</sub> O	100 g	HDPE bottle	1.06721.0100
			250 g	HDPE bottle	1.06721.0250
			1 kg	HDPE bottle	1.06721.1000

# Ordering information

## Salts

### Salts N-P

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
Nickel(II) sulfate hexahydrate for analysis EMSURE® ACS	10101-97-0	NiSO <sub>4</sub> * 6 H <sub>2</sub> O	100 g	HDPE bottle	1.06727.0100
			250 g	HDPE bottle	1.06727.0250
			1 kg	HDPE bottle	1.06727.1000
P Potassium antimony(III) oxide tartrate trihydrate EMPLURA®	28300-74-5	K <sub>2</sub> (SbO) <sub>2</sub> C <sub>8</sub> H <sub>4</sub> O <sub>10</sub> * 3 H <sub>2</sub> O	250 g	HDPE bottle	1.08092.0250
			1 kg	HDPE bottle	1.08092.1000
Potassium bromate for analysis EMSURE® Reag. Ph Eur	7758-01-2	KBrO <sub>3</sub>	100 g	Metal can	1.04912.0100
			250 g	Metal can	1.04912.0250
			25 kg	Metal drum	1.04912.9025
Potassium bromide for analysis (max. 0.000001% Hg) EMSURE® ACS, Reag. Ph Eur	7758-02-3	KBr	500 g	HDPE bottle	1.04905.0500
Potassium carbonate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	584-08-7	K <sub>2</sub> CO <sub>3</sub>	500 g	HDPE bottle	1.04928.0500
			1 kg	HDPE bottle	1.04928.1000
			50 kg	Fibre carton	1.04928.9050
Potassium chlorate for analysis EMSURE® Reag. Ph Eur	3811-04-9	KClO <sub>3</sub>	100 g	Metal can	1.04944.0100
			500 g	Metal can	1.04944.0500
Potassium chloride for analysis (≤ 0.005 % Br) EMSURE® ACS, ISO, Reag. Ph Eur	7447-40-7	KCl	500 g	HDPE bottle	1.04933.0500
			25 kg	Fibre carton	1.04933.9025
Potassium chloride for analysis EMSURE®	7447-40-7	KCl	250 g	HDPE bottle	1.04936.0250
			500 g	HDPE bottle	1.04936.0500
			1 kg	HDPE bottle	1.04936.1000
			5 kg	HDPE bottle	1.04936.5000
			50 kg	Fibre carton	1.04936.9050
Potassium chromate for analysis EMSURE® ACS, Reag. Ph Eur	7789-00-6	K <sub>2</sub> CrO <sub>4</sub>	250 g	HDPE bottle	1.04952.0250
			1 kg	HDPE bottle	1.04952.1000
Potassium cyanide for analysis EMSURE® ACS, ISO, Reag. Ph Eur	151-50-8	KCN	100 g	HDPE bottle	1.04967.0100
			250 g	HDPE bottle	1.04967.0250
			1 kg	HDPE bottle	1.04967.1000
Potassium cyanide EMPLURA®	151-50-8	KCN	1 kg	HDPE bottle	1.04965.1000
Potassium dichromate for analysis (max. 0.000001 % Hg) EMSURE® ACS, ISO	7778-50-9	K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	500 g	Glass bottle	1.04865.0500
Potassium dichromate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7778-50-9	K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	500 g	HDPE bottle	1.04864.0500
			1 kg	HDPE bottle	1.04864.1000
Potassium dihydrogen phosphate for analysis (≤ 0.005 % Na) EMSURE® ACS, ISO, Reag. Ph Eur	7778-77-0	KH <sub>2</sub> PO <sub>4</sub>	1 kg	HDPE bottle	1.04877.1000
			12 kg	PE bucket	1.04877.9012
			25 kg	Fibre carton	1.04877.9025
Potassium dihydrogen phosphate for analysis EMSURE® ISO	7778-77-0	KH <sub>2</sub> PO <sub>4</sub>	250 g	HDPE bottle	1.04873.0250
			1 kg	HDPE bottle	1.04873.1000
			5 kg	HDPE bottle	1.04873.5000
			25 kg	Fibre carton	1.04873.9025
			50 kg	Fibre carton	1.04873.9050

## Salts P

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
P Potassium disulfate (potassium pyrosulfate) for analysis EMSURE® ACS	7790-62-7	$K_2S_2O_7$	1 kg	HDPE bottle	1.05107.1000
			5 kg	HDPE bottle	1.05107.5000
			50 kg	PE drum	1.05107.9050
Potassium disulfite for analysis EMSURE®	16731-55-8	$K_2S_2O_5$	500 g	HDPE bottle	1.05057.0500
			1 kg	HDPE bottle	1.05057.1000
			2.5 kg	HDPE bottle	1.05057.2500
Potassium fluoride for analysis EMSURE® ACS	7789-23-3	KF	250 g	HDPE bottle	1.04994.0250
			1 kg	HDPE bottle	1.04994.1000
Potassium hexacyanoferrate(III) for analysis EMSURE® ACS, Reag. Ph Eur	13746-66-2	$K_3[Fe(CN)_6]$	100 g	HDPE bottle	1.04973.0100
			250 g	HDPE bottle	1.04973.0250
			1 kg	HDPE bottle	1.04973.1000
Potassium hexacyanoferrate(III) EMPLURA®	13746-66-2	$K_3[Fe(CN)_6]$	1 kg	HDPE bottle	1.04971.1000
Potassium hexacyanoferrate(II) trihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	14459-95-1	$K_4[Fe(CN)_6] \cdot 3 H_2O$	100 g	HDPE bottle	1.04984.0100
			500 g	HDPE bottle	1.04984.0500
			50 kg	Fibre carton	1.04984.9050
Potassium hexacyanoferrate(II) trihydrate EMPLURA®	14459-95-1	$K_4[Fe(CN)_6] \cdot 3 H_2O$	1 kg	HDPE bottle	1.04982.1000
			25 kg	Fibre carton	1.04982.9025
Potassium hexahydroxoantimonate(V) cryst. for analysis EMSURE®	12208-13-8	$K[Sb(OH)_6]$	100 g	HDPE bottle	1.05110.0100
Potassium hydrogen carbonate for analysis EMSURE® ACS	298-14-6	KHCO <sub>3</sub>	500 g	HDPE bottle	1.04854.0500
			25 kg	Fibre carton	1.04854.9025
Potassium hydrogen diiodate for analysis EMSURE®	13455-24-8	$KH(IO_3)_2$	50 g	Glass bottle	1.04867.0050
di-Potassium hydrogen phosphate anhydrous for analysis EMSURE®	7758-11-4	$K_2HPO_4$	1 kg	HDPE bottle	1.05104.1000
			25 kg	Fibre carton	1.05104.9025
			50 kg	Fibre carton	1.05104.9050
di-Potassium hydrogen phosphate trihydrate for analysis EMSURE®	16788-57-1	$K_2HO_4P \cdot 3 H_2O$	250 g	HDPE bottle	1.05099.0250
			1 kg	HDPE bottle	1.05099.1000
			5 kg	HDPE bottle	1.05099.5000
			25 kg	Fibre carton	1.05099.9025
			50 kg	Fibre carton	1.05099.9050
Potassium hydrogen phthalate for analysis EMSURE® Reag. Ph Eur	877-24-7	$C_8H_5KO_4$	250 g	HDPE bottle	1.04874.0250
			1 kg	HDPE bottle	1.04874.1000
			12 kg	PE bucket	1.04874.9012
Potassium hydrogen sulfate for analysis EMSURE® Reag. Ph Eur	7646-93-7	KHSO <sub>4</sub>	500 g	HDPE bottle	1.04885.0500
			2.5 kg	HDPE bottle	1.04885.2500
			25 kg	Fibre carton	1.04885.9025
Potassium iodate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7758-05-6	KIO <sub>3</sub>	100 g	HDPE bottle	1.05051.0100
			500 g	HDPE bottle	1.05051.0500
			25 kg	PE drum	1.05051.9025

# Ordering information

## Salts

### Salts P

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur	7681-11-0	KI	250 g	HDPE bottle	1.05043.0250
			500 g	HDPE bottle	1.05043.0500
			1 kg	HDPE bottle	1.05043.1000
			2.5 kg	HDPE bottle	1.05043.2500
			50 kg	Fibre carton	1.05043.9050
Potassium nitrate for analysis EMSURE® ISO, Reag. Ph Eur	7757-79-1	KNO <sub>3</sub>	500 g	HDPE bottle	1.05063.0500
			1 kg	HDPE bottle	1.05063.1000
			5 kg	HDPE bottle	1.05063.5000
			25 kg	Fibre carton	1.05063.9025
Potassium nitrite cryst. for analysis EMSURE® ACS	7758-09-0	KNO <sub>2</sub>	250 g	HDPE bottle	1.05067.0250
di-Potassium oxalate monohydrate for analysis EMSURE® ACS	6487-48-5	K <sub>2</sub> C <sub>2</sub> O <sub>4</sub> * H <sub>2</sub> O	250 g	HDPE bottle	1.05073.0250
			1 kg	HDPE bottle	1.05073.1000
Potassium perchlorate for analysis EMSURE® ACS	7778-74-7	KClO <sub>4</sub>	250 g	Metal can	1.05076.0250
			1 kg	Metal can	1.05076.1000
Potassium permanganate for analysis (max. 0.000005 % Hg) EMSURE® ACS	7722-64-7	KMnO <sub>4</sub>	1 kg	Glass bottle	1.05084.1000
Potassium permanganate for analysis EMSURE® ACS, Reag. Ph Eur	7722-64-7	KMnO <sub>4</sub>	250 g	Glass bottle	1.05082.0250
			1 kg	Glass bottle	1.05082.1000
Potassium permanganate cryst. EMPLURA®	7722-64-7	KMnO <sub>4</sub>	1 kg	Glass bottle	1.05080.1000
			5 kg	Metal can	1.05080.5000
			50 kg	Steel drum	1.05080.9050
Potassium peroxodisulfate for analysis (≤ 0.001 % N) EMSURE® ACS, Reag. Ph Eur	7727-21-1	K <sub>2</sub> S <sub>2</sub> O <sub>8</sub>	250 g	HDPE bottle	1.05092.0250
Potassium peroxodisulfate for analysis EMSURE®	7727-21-1	K <sub>2</sub> S <sub>2</sub> O <sub>8</sub>	250 g	HDPE bottle	1.05091.0250
			1 kg	HDPE bottle	1.05091.1000
Potassium sodium tartrate tetrahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	6381-59-5	C <sub>4</sub> H <sub>4</sub> KNaO <sub>6</sub> * 4 H <sub>2</sub> O	500 g	HDPE bottle	1.08087.0500
			1 kg	HDPE bottle	1.08087.1000
			5 kg	HDPE bottle	1.08087.5000
			12 kg	PE bucket	1.08087.9012
			50 kg	Fibre carton	1.08087.9050
Potassium sulfate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7778-80-5	K <sub>2</sub> SO <sub>4</sub>	500 g	HDPE bottle	1.05153.0500
			1 kg	HDPE bottle	1.05153.1000
			5 kg	HDPE bottle	1.05153.5000
			25 kg	Fibre carton	1.05153.9025
Potassium sulfide small lumps for analysis EMSURE®	39365-88-3		250 g	HDPE bottle	1.05134.0250
			1 kg	HDPE bottle	1.05134.1000
Potassium thiocyanate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	333-20-0	KSCN	250 g	HDPE bottle	1.05125.0250
			1 kg	HDPE bottle	1.05125.1000
			50 kg	Fibre carton	1.05125.9050
Potassium thiocyanate EMPLURA®	333-20-0	KSCN	1 kg	HDPE bottle	1.05124.1000

## Salts S

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
Silver nitrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7761-88-8	AgNO <sub>3</sub>	25 g	HDPE bottle	1.01512.0025
			100 g	HDPE bottle	1.01512.0100
			250 g	HDPE bottle	1.01512.0250
			1 kg	HDPE bottle	1.01512.1000
Sodium acetate anhydrous for analysis EMSURE® ACS, Reag. Ph Eur	127-09-3	CH <sub>3</sub> COONa	250 g	HDPE bottle	1.06268.0250
			1 kg	HDPE bottle	1.06268.1000
			2.5 kg	HDPE bottle	1.06268.2500
			12 kg	PE bucket	1.06268.9012
			25 kg	Fibre carton	1.06268.9025
Sodium acetate trihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	6131-90-4	CH <sub>3</sub> COONa * 3 H <sub>2</sub> O	500 g	HDPE bottle	1.06267.0500
			1 kg	HDPE bottle	1.06267.1000
			5 kg	HDPE bottle	1.06267.5000
			NEW 12 kg	PE bucket	1.06267.9012
			50 kg	Fibre carton	1.06267.9050
Sodium ammonium hydrogen phosphate tetrahydrate for analysis EMSURE®	7783-13-3	NaNH <sub>4</sub> HPO <sub>4</sub> * 4 H <sub>2</sub> O	1 kg	HDPE bottle	1.06682.1000
Sodium carbonate anhydrous for analysis EMSURE® ACS, ISO, Reag. Ph Eur	497-19-8	Na <sub>2</sub> CO <sub>3</sub>	1 kg	HDPE bottle	1.06393.1000
			50 kg	Fibre carton	1.06393.9050
Sodium carbonate anhydrous for analysis EMSURE® ISO	497-19-8	Na <sub>2</sub> CO <sub>3</sub>	500 g	HDPE bottle	1.06392.0500
			1 kg	HDPE bottle	1.06392.1000
			5 kg	HDPE bottle	1.06392.5000
			25 kg	Fibre carton	1.06392.9025
			50 kg	Fibre carton	1.06392.9050
Sodium carbonate decahydrate for analysis EMSURE® ISO, Reag. Ph Eur	6132-02-1	Na <sub>2</sub> CO <sub>3</sub> * 10 H <sub>2</sub> O	1 kg	HDPE bottle	1.06391.1000
			5 kg	HDPE bottle	1.06391.5000
Sodium chlorate EMPLURA®	7775-09-9	NaClO <sub>3</sub>	25 kg	Fibre carton	1.06391.9025
			1 kg	HDPE bottle	1.06420.1000
Sodium chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7647-14-5	NaCl	50 kg	PE drum	1.06420.9050
			500 g	HDPE bottle	1.06404.0500
			1 kg	HDPE bottle	1.06404.1000
			5 kg	HDPE bottle	1.06404.5000
			12 kg	PE bucket	1.06404.9012
tri-Sodium citrate dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	6132-04-3	C <sub>6</sub> H <sub>5</sub> Na <sub>3</sub> O <sub>7</sub> * 2 H <sub>2</sub> O	25 kg	Fibre carton	1.06404.9025
			50 kg	Fibre carton	1.06404.9050
			500 g	HDPE bottle	1.06448.0500
			1 kg	HDPE bottle	1.06448.1000
Sodium cyanide EMPLURA®	143-33-9	NaCN	5 kg	HDPE bottle	1.06448.5000
			25 kg	Fibre carton	1.06448.9025
Sodium dichromate dihydrate for analysis EMSURE® ACS	7789-12-0	Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> * 2 H <sub>2</sub> O	1 kg	HDPE bottle	1.06437.1000
			250 g	HDPE bottle	1.06336.0250
			1 kg	HDPE bottle	1.06336.1000

# Ordering information

## Salts

### Salts S

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
Sodium dihydrogen phosphate dihydrate for analysis EMSURE® Reag. Ph Eur	13472-35-0	$\text{NaH}_2\text{PO}_4 \cdot 2 \text{H}_2\text{O}$	250 g	HDPE bottle	1.06342.0250
			1 kg	HDPE bottle	1.06342.1000
			2.5 kg	HDPE bottle	1.06342.2500
			25 kg	Fibre carton	1.06342.9025
Sodium dihydrogen phosphate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur	10049-21-5	$\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$	500 g	HDPE bottle	1.06346.0500
			1 kg	HDPE bottle	1.06346.1000
			12 kg	PE bucket	1.06346.9012
			25 kg	Fibre carton	1.06346.9025
			50 kg	Fibre carton	1.06346.9050
tetra-Sodium diphosphate decahydrate for analysis EMSURE® ACS, Reag. Ph Eur	13472-36-1	$\text{Na}_4\text{P}_2\text{O}_7 \cdot 10 \text{H}_2\text{O}$	500 g	HDPE bottle	1.06591.0500
			2.5 kg	HDPE bottle	1.06591.2500
			50 kg	Fibre carton	1.06591.9050
Sodium disulfite (sodium metabisulfite) for analysis EMSURE® ACS, Reag. Ph Eur	7681-57-4	$\text{Na}_2\text{S}_2\text{O}_5$	100 g	HDPE bottle	1.06528.0100
			500 g	HDPE bottle	1.06528.0500
			1 kg	HDPE bottle	1.06528.1000
			5 kg	HDPE bottle	1.06528.5000
			50 kg	Fibre carton	1.06528.9050
Sodium dithionite for analysis EMSURE®	7775-14-6	$\text{Na}_2\text{S}_2\text{O}_4$	500 g	Metal can	1.06507.0500
			2.5 kg	Metal can	1.06507.2500
Sodium dithionite EMPLURA®	7775-14-6	$\text{Na}_2\text{S}_2\text{O}_4$	1 kg	Metal can	1.06505.1000
			50 kg	Steel drum	1.06505.9050
Sodium fluoride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7681-49-4	NaF	250 g	HDPE bottle	1.06449.0250
			1 kg	HDPE bottle	1.06449.1000
Sodium formate for analysis EMSURE® ACS, Reag. Ph Eur	141-53-7	HCOONa	50 kg	Fibre carton	1.06443.9050
			500 g	HDPE bottle	1.06443.0500
Sodium hexanitrocobaltate(III) [sodium cobalt(III)nitrite] for analysis EMSURE® ACS, Reag. Ph Eur	13600-98-1	$\text{Na}_3[\text{Co}(\text{NO}_2)_6]$	25 g	HDPE bottle	1.02521.0025
			100 g	HDPE bottle	1.02521.0100
			500 g	HDPE bottle	1.06329.0500
Sodium hydrogen carbonate for analysis EMSURE® ACS, Reag. Ph Eur	144-55-8	$\text{NaHCO}_3$	1 kg	HDPE bottle	1.06329.1000
			5 kg	HDPE bottle	1.06329.5000
			12 kg	PE bucket	1.06329.9012
			25 kg	PE drum	1.06329.9025
			50 kg	Fibre carton	1.06329.9050
			500 g	HDPE bottle	1.06329.0500
di-Sodium hydrogen phosphate anhydrous (~18 – 80 mesh ASTM) EMSURE®	7558-79-4	$\text{Na}_2\text{HPO}_4$	500 g	HDPE bottle	1.06559.0500
			25 kg	Fibre carton	1.06559.9025
di-Sodium hydrogen phosphate anhydrous for analysis EMSURE® ACS, Reag. Ph Eur	7558-79-4	$\text{Na}_2\text{HPO}_4$	500 g	HDPE bottle	1.06586.0500
			1 kg	HDPE bottle	1.06586.1000
			2.5 kg	HDPE bottle	1.06586.2500
			12 kg	PE bucket	1.06586.9012
			50 kg	Fibre carton	1.06586.9050

## Salts S

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
S  di-Sodium hydrogen phosphate dihydrate for analysis EMSURE®	10028-24-7	Na <sub>2</sub> HPO <sub>4</sub> * 2 H <sub>2</sub> O	500 g	HDPE bottle	1.06580.0500
			1 kg	HDPE bottle	1.06580.1000
			5 kg	HDPE bottle	1.06580.5000
			25 kg	Fibre carton	1.06580.9025
			50 kg	Fibre carton	1.06580.9050
di-Sodium hydrogen phosphate dodecahydrate for analysis EMSURE® ISO, Reag. Ph Eur	10039-32-4	Na <sub>2</sub> HPO <sub>4</sub> * 12 H <sub>2</sub> O	500 g	HDPE bottle	1.06579.0500
			1 kg	HDPE bottle	1.06579.1000
			5 kg	HDPE bottle	1.06579.5000
di-Sodium hydrogen phosphate heptahydrate for analysis EMSURE® ACS	7782-85-6	Na <sub>2</sub> HPO <sub>4</sub> * 7 H <sub>2</sub> O	1 kg	HDPE bottle	1.06575.1000
			25 kg	Fibre carton	1.06575.9025
Sodium hydrogen sulfate monohydrate for analysis EMSURE®	10034-88-5	NaHSO <sub>4</sub> * H <sub>2</sub> O	500 g	HDPE bottle	1.06352.0500
Sodium hypochlorite solution (6 – 14 % active chlorine) EMPLURA®			2.5 l	HDPE bottle	1.05614.2500
			25 l	PE canister	1.05614.9025
Sodium iodate for analysis EMSURE®	7681-55-2	NaIO <sub>3</sub>	100 g	Glass bottle	1.06525.0100
			1 kg	Glass bottle	1.06525.1000
Sodium iodide for analysis EMSURE® ACS, Reag. Ph Eur	7681-82-5	NaI	100 g	HDPE bottle	1.06523.0100
			250 g	HDPE bottle	1.06523.0250
			1 kg	HDPE bottle	1.06523.1000
Sodium metaperiodate for analysis EMSURE® ACS, Reag. Ph Eur	7790-28-5	NaIO <sub>4</sub>	50 g	HDPE bottle	1.06597.0050
			250 g	HDPE bottle	1.06597.0250
			1 kg	HDPE bottle	1.06597.1000
Sodium molybdate dihydrate for analysis EMSURE®	10102-40-6	Na <sub>2</sub> MoO <sub>4</sub> * 2 H <sub>2</sub> O	100 g	HDPE bottle	1.06521.0100
			250 g	HDPE bottle	1.06521.0250
			1 kg	HDPE bottle	1.06521.1000
Sodium molybdate dihydrate EMPLURA®	10102-40-6	Na <sub>2</sub> MoO <sub>4</sub> * 2 H <sub>2</sub> O	1 kg	HDPE bottle	1.06524.1000
			50 kg	Fibre carton	1.06524.9050
Sodium nitrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7631-99-4	NaNO <sub>3</sub>	500 g	HDPE bottle	1.06537.0500
			1 kg	HDPE bottle	1.06537.1000
			12 kg	PE bucket	1.06537.9012
			25 kg	Fibre carton	1.06537.9025
Sodium nitrate cryst. EMPLURA®	7631-99-4	NaNO <sub>3</sub>	1 kg	HDPE bottle	1.06535.1000
			50 kg	Fibre carton	1.06535.9050
Sodium nitrite for analysis EMSURE® ACS, Reag. Ph Eur	7632-00-0	NaNO <sub>2</sub>	100 g	HDPE bottle	1.06549.0100
			500 g	HDPE bottle	1.06549.0500
			12 kg	PE bucket	1.06549.9012
di-Sodium oxalate for analysis EMSURE®	62-76-0	Na <sub>2</sub> C <sub>2</sub> O <sub>4</sub>	250 g	HDPE bottle	1.06557.0250
			1 kg	HDPE bottle	1.06557.1000
Sodium perchlorate monohydrate for analysis EMSURE®	7791-07-3	NaClO <sub>4</sub> * H <sub>2</sub> O	100 g	Metal can	1.06564.0100
			500 g	Metal can	1.06564.0500
			25 kg	Steel drum	1.06564.9025

# Ordering information

## Salts

### Salts S

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
Sodium peroxodisulfate for analysis EMSURE®	7775-27-1	Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub>	500 g	HDPE bottle	1.06609.0500
			1 kg	HDPE bottle	1.06609.1000
			12 kg	PE bucket	1.06609.9012
			25 kg	Fibre carton	1.06609.9025
tri-Sodium phosphate dodecahydrate for analysis EMSURE® ACS, Reag. Ph Eur	10101-89-0	Na <sub>3</sub> PO <sub>4</sub> * 12 H <sub>2</sub> O	1 kg	HDPE bottle	1.06578.1000
			5 kg	HDPE bottle	1.06578.5000
			12 kg	PE bucket	1.06578.9012
			25 kg	Fibre carton	1.06578.9025
tri-Sodium phosphate dodecahydrate for analysis EMSURE®	10101-89-0	Na <sub>3</sub> PO <sub>4</sub> * 12 H <sub>2</sub> O	1 kg	HDPE bottle	1.06572.1000
			5 kg	HDPE bottle	1.06572.5000
			25 kg	Fibre carton	1.06572.9025
Sodium polyphosphate EMPLURA® (Graham's salt)	10361-03-2	(NaPO <sub>3</sub> ) <sub>n</sub> / n = ~ 25	1 kg	HDPE bottle	1.06529.1000
			5 kg	HDPE bottle	1.06529.5000
			50 kg	Fibre carton	1.06529.9050
Sodium salicylate for analysis EMSURE®	54-21-7	HOC <sub>6</sub> H <sub>4</sub> COONa	250 g	HDPE bottle	1.06601.0250
			1 kg	HDPE bottle	1.06601.1000
Sodium sulfate anhydrous coarse granules for analysis EMSURE® ACS	7757-82-6	Na <sub>2</sub> SO <sub>4</sub>	2.5 kg	HDPE bottle	1.06601.2500
			500 g	HDPE bottle	1.06637.0500
			1 kg	HDPE bottle	1.06637.1000
Sodium sulfate anhydrous for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7757-82-6	Na <sub>2</sub> SO <sub>4</sub>	25 kg	Fibre carton	1.06637.9025
			500 g	HDPE bottle	1.06649.0500
Sodium sulfate anhydrous for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7757-82-6	Na <sub>2</sub> SO <sub>4</sub>	1 kg	HDPE bottle	1.06649.1000
			5 kg	HDPE bottle	1.06649.5000
			25 kg	Fibre carton	1.06649.9025
Sodium sulfate anhydrous granulated for organic trace analysis EMSURE®	7757-82-6	Na <sub>2</sub> SO <sub>4</sub>	500 g	Glass bottle	1.06639.0500
Sodium sulfate decahydrate for analysis EMSURE® ACS, Reag. Ph Eur	7727-73-3	Na <sub>2</sub> SO <sub>4</sub> * 10 H <sub>2</sub> O	1 kg	HDPE bottle	1.06648.1000
			25 kg	Fibre carton	1.06648.9025
Sodium sulfite anhydrous for analysis EMSURE® Reag. Ph Eur	7757-83-7	Na <sub>2</sub> SO <sub>3</sub>	500 g	HDPE bottle	1.06657.0500
			1 kg	HDPE bottle	1.06657.1000
			5 kg	HDPE bottle	1.06657.5000
			50 kg	Fibre carton	1.06657.9050
di-Sodium tartrate dihydrate for analysis EMSURE®	6106-24-7	C <sub>4</sub> H <sub>4</sub> Na <sub>2</sub> O <sub>6</sub> * 2 H <sub>2</sub> O	250 g	HDPE bottle	1.06663.0250
Sodium thiocyanate EMPLURA®	540-72-7	NaSCN	1 kg	HDPE bottle	1.06663.1000
			2.5 kg	HDPE bottle	1.06627.2500
Sodium thiosulfate anhydrous EMPLURA®	7772-98-7	Na <sub>2</sub> O <sub>3</sub> S <sub>2</sub>	250 g	HDPE bottle	1.06512.0250
			2.5 kg	HDPE bottle	1.06512.2500
			25 kg	Fibre carton	1.06512.9025
			50 kg	Fibre carton	1.06512.9050
Sodium thiosulfate pentahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	10102-17-7	Na <sub>2</sub> O <sub>3</sub> S <sub>2</sub> * 5 H <sub>2</sub> O	500 g	HDPE bottle	1.06516.0500
			1 kg	HDPE bottle	1.06516.1000
			5 kg	HDPE bottle	1.06516.5000
			25 kg	Fibre carton	1.06516.9025



## Salts S-Z

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
Sodium tungstate dihydrate for analysis EMSURE®	10213-10-2	$\text{Na}_2\text{WO}_4 \cdot 2 \text{H}_2\text{O}$	250 g	HDPE bottle	1.06673.0250
			1 kg	HDPE bottle	1.06673.1000
			25 kg	Fibre carton	1.06673.9025
Sodium tungstate dihydrate EMPLURA®	10213-10-2	$\text{Na}_2\text{WO}_4 \cdot 2 \text{H}_2\text{O}$	1 kg	HDPE bottle	1.06672.1000
			25 kg	Fibre carton	1.06672.9025
Strontium chloride hexahydrate for analysis EMSURE® ACS	10025-70-4	$\text{SrCl}_2 \cdot 6 \text{H}_2\text{O}$	250 g	HDPE bottle	1.07865.0250
			1 kg	HDPE bottle	1.07865.1000
Strontium nitrate for analysis EMSURE®	10042-76-9	$\text{Sr}(\text{NO}_3)_2$	250 g	HDPE bottle	1.07872.0250
			25 kg	Fibre carton	1.07872.9025
Tin(IV) chloride EMPLURA®	7646-78-8	$\text{SnCl}_4$	500 ml	Glass bottle	1.07810.0500
			100 g	Glass bottle	1.07815.0100
Tin(II) chloride dihydrate for analysis (max. 0.000001 % Hg) EMSURE®	10025-69-1	$\text{SnCl}_2 \cdot 2 \text{H}_2\text{O}$	250 g	Glass bottle	1.07815.0250
			1 kg	Glass bottle	1.07815.1000
			25 kg	Fibre carton	1.07815.9025
Tin(II) chloride dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	10025-69-1	$\text{SnCl}_2 \cdot 2 \text{H}_2\text{O}$	250 g	Glass bottle	1.07814.0250
			2.5 kg	Glass bottle	1.07814.2500
Zinc acetate dihydrate for analysis EMSURE® ACS	5970-45-6	$(\text{CH}_3\text{COO})_2\text{Zn} \cdot 2 \text{H}_2\text{O}$	250 g	HDPE bottle	1.08802.0250
			1 kg	HDPE bottle	1.08802.1000
Zinc chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7646-85-7	$\text{ZnCl}_2$	250 g	HDPE bottle	1.08816.0250
			1 kg	HDPE bottle	1.08816.1000
			25 kg	PE drum	1.08816.9025
Zinc iodide for analysis EMSURE®	10139-47-6	$\text{ZnI}_2$	100 g	Glass bottle	1.08828.0100
Zinc nitrate tetrahydrate for analysis EMSURE®	19154-63-3	$\text{Zn}(\text{NO}_3)_2 \cdot 4 \text{H}_2\text{O}$	1 kg	HDPE bottle	1.08833.1000
Zinc sulfate heptahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7446-20-0	$\text{ZnSO}_4 \cdot 7 \text{H}_2\text{O}$	500 g	HDPE bottle	1.08883.0500
			1 kg	HDPE bottle	1.08883.1000
			5 kg	HDPE bottle	1.08883.5000
			50 kg	Fibre carton	1.08883.9050



► For more details about our packaging, please see “Packaging and Safe Handling” on page 42

# solvents



EMSURE® | EMPARTA® | EMPLURA® Solvents. Distinguished by exceptional quality and reliability, our solvents undergo strict controls and continuous development to meet growing regulations. As your reliable, one-stop supplier, we offer a complete solution, including solvents, documentation, secure packaging and withdrawal systems.

### **EMSURE®** Solvents

Premium Grade

► For more information please have a look at page 20

### **EMPARTA®** Solvents

Standard Grade

► For more information please have a look at page 32

### **EMPLURA®** Solvents

Basic Grade

► For more information please have a look at page 36

# Ordering information

## Solvents

### Solvents A-B

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.
Acetone for analysis EMSURE® ACS, ISO, Reag. Ph Eur	67-64-1	≥ 99.8 %	≤ 0.0005 %	≤ 0.05 %	1 l	Glass bottle	1.00014.1000
					1 l	HDPE bottle	1.00014.1011
					2.5 l	Glass bottle	1.00014.2500
					2.5 l	HDPE bottle	1.00014.2511
					4 l	Glass bottle	1.00014.4000
					5 l	HDPE bottle	1.00014.5000
					10 l	Stainless steel drum	1.00014.6010
					25 l	Stainless steel drum	1.00014.6025
					190 l	Stainless steel drum	1.00014.6190
					180 l	PE / Metal drum	1.00014.9180
Acetone for analysis EMPARTA® ACS	67-64-1	≥ 99.5 %	≤ 0.001 %	≤ 0.5 %	2.5 l	HDPE bottle	1.07021.2511
					4 l	Glass bottle	1.07021.4000
Acetone EMPLURA®	67-64-1	≥ 99.0 %	≤ 0.004 %	≤ 0.3 %	1 l	HDPE bottle	8.22251.1000
					2.5 l	HDPE bottle	8.22251.2500
					5 l	HDPE bottle	8.22251.5011
					25 l	Metal drum	8.22251.9025
Acetonitrile for analysis EMSURE® ACS, Reag. Ph Eur	75-05-8	≥ 99.5 %	≤ 0.001 %	≤ 0.1 %	1 l	Glass bottle	1.00003.1000
					2.5 l	Glass bottle	1.00003.2500
					4 l	Glass bottle	1.00003.4000
					10 l	Stainless steel drum	1.00003.6010
					25 l	Stainless steel drum	1.00003.6025
Acetonitrile EMPLURA®	75-05-8	≥ 99.0 %	≤ 0.005 %	≤ 0.5 %	1 l	Glass bottle	1.15500.1000
					2.5 l	Glass bottle	1.15500.2500
					4 l	Glass bottle	1.15500.4000
					25 l	Stainless steel drum	1.15500.6025
					190 l	Metal drum	1.15500.9190
Acetylacetone for analysis EMSURE®	123-54-6	≥ 99.0 %		≤ 0.3 %	100 ml	Glass bottle	1.09600.0100
					500 ml	Glass bottle	1.09600.0500
n-Amyl alcohol (Pentan-1-ol) for analysis EMSURE®	71-41-0	≥ 98.5 %	≤ 0.005 %	≤ 0.1 %	1 l	Glass bottle	1.00975.1000
					2.5 l	Glass bottle	1.00975.2500
tert-Amyl alcohol EMPLURA®	75-85-4	≥ 99.0 %			1 l	HDPE bottle	8.06193.1000
Aniline for analysis EMSURE®	62-53-3	≥ 99.5 %		≤ 0.1 %	1 l	Glass bottle	1.01261.1000
1-Butanol for analysis EMSURE® ACS, ISO, Reag. Ph Eur	71-36-3	≥ 99.5 %	≤ 0.001 %	≤ 0.1 %	1 l	Glass bottle	1.01990.1000
					2.5 l	Glass bottle	1.01990.2500
					4 l	Glass bottle	1.01990.4000
					25 l	Stainless steel drum	1.01990.6025
1-Butanol EMPLURA®	71-36-3	≥ 99.0 %	≤ 0.004 %	≤ 0.2 %	2.5 l	HDPE bottle	8.22262.2500
2-Butanol for analysis EMSURE®	78-92-2	≥ 99.0 %	≤ 0.001 %	≤ 0.2 %	1 l	Glass bottle	1.09630.1000
					2.5 l	Glass bottle	1.09630.2500
					25 l	Stainless steel drum	1.09630.6025
2-Butanol EMPLURA®	78-92-2			≤ 0.2 %	2.5 l	HDPE bottle	8.22263.2500

## Solvents B-C

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.
B Benzyl alcohol for analysis EMSURE®	100-51-6	≥ 99.5 %		≤ 0.1 %	1 l	Glass bottle	1.09626.1000
					2.5 l	Glass bottle	1.09626.2500
					4 l	Glass bottle	1.09626.4000
					25 l	Stainless steel drum	1.09626.6025
tert-Butanol for analysis EMSURE® ACS, Reag. Ph Eur	75-65-0	≥ 99.5 %	≤ 0.001 %	≤ 0.1 %	500 ml	Glass bottle	1.09629.0500
					5 l	Aluminum bottle	1.09629.5000
					25 l	Metal drum	1.09629.9025
tert-Butanol EMPLURA®	75-65-0	≥ 99.0 %		≤ 0.1 %	1 l	Glass bottle	8.22264.1000
					5 l	Aluminum bottle	8.22264.5000
					25 l	PE canister	8.22264.9025
n-Butyl acetate for analysis EMSURE®	123-86-4	≥ 99.5 %	≤ 0.001 %	≤ 0.1 %	1 l	Glass bottle	1.09652.1000
					2.5 l	Glass bottle	1.09652.2500
					4 l	Glass bottle	1.09652.4000
n-Butyl acetate EMPLURA®	123-86-4	≥ 99.0 %	≤ 0.001 %		2.5 l	Glass bottle	1.01974.2500
					25 l	Stainless steel drum	1.01974.6025
tert-Butyl methyl ether for analysis EMSURE® ACS	1634-04-4	≥ 99.5 %	≤ 0.001 %	≤ 0.03 %	1 l	Glass bottle	1.01849.1000
					2.5 l	Glass bottle	1.01849.2500
					4 l	Glass bottle	1.01849.4000
					5 l	HDPE bottle	1.01849.5011
tert-Butyl methyl ether EMPLURA®	1634-04-4	≥ 99.0 %	≤ 0.005 %	≤ 0.05 %	190 l	Metal drum	1.01849.9190
					2.5 l	Glass bottle	1.01843.2500
					10 l	Metal drum	1.01843.9011
					25 l	Stainless steel drum	1.01843.6025
C Chloroform for analysis EMSURE® ACS, ISO, Reag. Ph Eur	67-66-3	99.0 - 99.4 %	≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.02445.1000
					2.5 l	Glass bottle	1.02445.2500
					4 l	Glass bottle	1.02445.4000
					10 l	Stainless steel drum	1.02445.6010
					25 l	Stainless steel drum	1.02445.6025
Chloroform for analysis EMPARTA® ACS	67-66-3	99.0 - 99.4 %	≤ 0.001 %	≤ 0.01 %	190 l	Metal drum	1.02445.9190
					2.5 l	Glass bottle	1.07024.2500
Chloroform EMPLURA®	67-66-3	≥ 99 %	≤ 0.001 %	≤ 0.1 %	4 l	Glass bottle	1.07024.4000
					1 l	Glass bottle	8.22265.1000
Chloroform for analysis (for determinations with dithizone)	67-66-3	99.0 - 99.4 %	< 0.001 %	< 0.01 %	2.5 l	Glass bottle	8.22265.2500
					1 l	Glass bottle	1.02442.1000
Cyclohexane for analysis EMSURE® ACS, ISO, Reag. Ph Eur	110-82-7	≥ 99.5 %	≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.02442.2500
					1 l	Glass bottle	1.09666.1000
					2.5 l	Glass bottle	1.09666.2500
					2.5 l	HDPE bottle	1.09666.2511
					4 l	Glass bottle	1.09666.4000
					5 l	HDPE bottle	1.09666.5011
					10 l	Stainless steel drum	1.09666.6010
25 l	Stainless steel drum	1.09666.6025					
					190 l	Metal drum	1.09666.9190

# Ordering information

## Solvents

### Solvents C-D

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.
C Cyclohexane EMPLURA®	110-82-7	≥ 99.0 %		≤ 0.05 %	1 l	Glass bottle	1.02832.1000
					2.5 l	Glass bottle	1.02832.2500
					25 l	Stainless steel drum	1.02832.6025
					190 l	Metal drum	1.02832.9190
Cyclohexane for denaturation	110-82-7	≥ 99.0 %			190 l	Metal drum	1.02830.9190
Cyclohexanone EMPLURA®	108-94-1	≥ 99.0 %		≤ 0.2 %	1 l	Glass bottle	1.02888.1000
					2.5 l	Glass bottle	1.02888.2500
					10 l	Stainless steel drum	1.02888.6010
					25 l	Stainless steel drum	1.02888.6025
					190 l	Metal drum	1.02888.9191
Cyclopentyl methyl ether EMPLURA®	5614-37-9	≥ 99.0 %		≤ 0.2 %	1 l	Glass bottle	1.08293.1000
					2.5 l	Glass bottle	1.08293.2500
					4 l	Glass bottle	1.08293.4000
D 1,2-Dichlorobenzene for extraction analysis EMSURE®	95-50-1	≥ 99.0 %		≤ 0.01 %	1 l	Glass bottle	1.02930.1000
					2.5 l	Glass bottle	1.02930.2500
1,2-Dichloroethane EMPLURA®	107-06-2	≥ 99.5 %	≤ 0.002 %	≤ 0.03 %	1 l	Glass bottle	1.00955.1000
					2.5 l	Glass bottle	1.00955.2500
Dichloromethane for analysis EMSURE® ACS, ISO, Reag. Ph Eur	75-09-2	≥ 99.8 %	≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.06050.1000
					2.5 l	Glass bottle	1.06050.2500
					4 l	Glass bottle	1.06050.4000
					10 l	Stainless steel drum	1.06050.6010
					25 l	Stainless steel drum	1.06050.6025
Dichloromethane for analysis EMPARTA® ACS	75-09-2	≥ 99.5 %	≤ 0.002 %	≤ 0.02 %	2.5 l	Glass bottle	1.07020.2500
					4 l	Glass bottle	1.07020.4000
Dichloromethane EMPLURA®	75-09-2	≥ 99.0 %	≤ 0.002 %	≤ 0.1 %	1 l	Glass bottle	8.22271.1000
					2.5 l	Glass bottle	8.22271.2500
					25 l	Metal drum	8.22271.9025
Diethanolamine for analysis EMSURE®	111-42-2	≥ 99.5 %		≤ 0.25 %	1 l	HDPE bottle	1.16205.1000
Diethyl ether for analysis EMSURE® ACS, ISO, Reag. Ph Eur	60-29-7	≥ 99.7 %	≤ 0.0005 %	≤ 0.03 %	1 l	Glass bottle	1.00921.1000
					2.5 l	Glass bottle	1.00921.2500
					5 l	Aluminum bottle	1.00921.5000
					25 l	Stainless steel drum	1.00921.6025
					190 l	Stainless steel drum	1.00921.6190
					190 l	Metal drum	1.00921.9190
Diethyl ether for analysis EMPARTA® ACS	60-29-7	≥ 99.5 %	≤ 0.001 %	≤ 0.1 %	2.5 l	Glass bottle	1.07026.2500
					5 l	Aluminum bottle	1.07026.5000
Diethyl ether EMPLURA®	60-29-7	≥ 99.0 %		≤ 0.2 %	1 l	Glass bottle	1.00923.1000
					5 l	Aluminum bottle	1.00923.5000
					25 l	Stainless steel drum	1.00923.6025

## Solvents D-E

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.
D Diethyl ether for analysis, Ethanol stabilized EMPARTA® ACS		≥ 98.0 %	≤ 0.001 %	≤ 0.5 %	4 l	Glass bottle	1.07062.4000
					5 l	Aluminum bottle	1.07062.5000
Diisopropyl ether for analysis EMSURE® ACS, Reag. Ph Eur	108-20-3	≥ 99.0 %	≤ 0.005 %	≤ 0.05 %	1 l	Glass bottle	1.00867.1000
					2.5 l	Glass bottle	1.00867.2500
					4 l	Glass bottle	1.00867.4000
					10 l	Stainless steel drum	1.00867.6010
N,N-Dimethylformamide for analysis EMSURE® ACS, ISO, Reag. Ph Eur	68-12-2	≥ 99.8 %	≤ 0.001 %	≤ 0.1 %	1 l	Glass bottle	1.03053.1000
					1 l	HDPE bottle	1.03053.1011
					2.5 l	Glass bottle	1.03053.2500
					2.5 l	HDPE bottle	1.03053.2511
					4 l	Glass bottle	1.03053.4000
N,N-Dimethylformamide EMPARTA®	68-12-2	≥ 99.5 %	≤ 0.001 %	≤ 0.1 %	25 l	Stainless steel drum	1.03053.6025
					1 l	Glass bottle	1.03034.1000
					2.5 l	Glass bottle	1.03034.2500
					2.5 l	HDPE bottle	1.03034.2511
					4 l	Glass bottle	1.03034.4000
N,N-Dimethylformamide EMPLURA®	68-12-2	≥ 99.0 %		≤ 0.1 %	25 l	Stainless steel drum	1.03034.6025
					1 l	HDPE bottle	8.22275.1000
					2.5 l	HDPE bottle	8.22275.2500
Dimethyl sulfoxide for analysis EMSURE® ACS	67-68-5	≥ 99.9 %	≤ 0.001 %	≤ 0.1 %	25 l	Stainless steel drum	8.22275.6025
					1 l	Glass bottle	1.02952.1000
					1 l	HDPE bottle	1.02952.1011
					2.5 l	Glass bottle	1.02952.2500
					2.5 l	HDPE bottle	1.02952.2511
Dimethyl sulfoxide EMPLURA®	67-68-5	≥ 99.0 %		≤ 0.2 %	4 l	Glass bottle	1.02952.4000
					25 l	Metal drum	1.02952.9025
					1 l	Glass bottle	1.16743.1000
1,4-Dioxane for analysis EMSURE® ACS, ISO	123-91-1	≥ 99.5 %	≤ 0.001 %	≤ 0.05 %	25 l	Stainless steel drum	1.16743.6025
					250 ml	Glass bottle	1.09671.0250
					1 l	Glass bottle	1.09671.1000
					2.5 l	Glass bottle	1.09671.2500
1,4-Dioxane EMPLURA®	123-91-1	≥ 99.0 %		≤ 0.1 %	25 l	Stainless steel drum	1.09671.6025
					1 l	Glass bottle	1.03115.1000
					2.5 l	Glass bottle	1.03115.2500
					25 l	Stainless steel drum	1.03115.6025
E Ethanol 96 % EMSURE® Reag. Ph Eur	64-17-5	95.1-96.9 %	≤ 25 mg/l		190 l	Metal drum	1.03115.9191
					500 ml	Glass bottle	1.59010.0500
					2.5 l	Glass bottle	1.59010.2500

# Ordering information

## Solvents

### Solvents E

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.
Ethanol absolute for analysis EMSURE® ACS, ISO, Reag. Ph Eur	64-17-5	≥ 99.9 %	≤ 0.0005 %	≤ 0.1 %	1 l	Glass bottle	1.00983.1000
					1 l	HDPE bottle	1.00983.1011
					2.5 l	Glass bottle	1.00983.2500
					2.5 l	HDPE bottle	1.00983.2511
					4 l	Glass bottle	1.00983.4000
					5 l	HDPE bottle	1.00983.5000
					10 l	Stainless steel drum	1.00983.6010
					25 l	Stainless steel drum	1.00983.6025
					25 l	Metal drum	1.00983.9025
					180 l	PE / Metal drum	1.00983.9180
Ethanol absolute for analysis EMPARTA® ACS	64-17-5	≥ 99.5 %	≤ 0.001 %	≤ 0.2 %	2.5 l	HDPE bottle	1.07017.2511
					4 l	Glass bottle	1.07017.4000
					25 l	Metal drum	1.07017.9026
Ethanol absolute EMPLURA®	64-17-5	≥ 99.5 %	≤ 0.0025 %	≤ 0.2 %	1 l	HDPE bottle	8.18760.1000
					2.5 l	HDPE bottle	8.18760.2500
					25 l	Metal drum	8.18760.9025
Ethanol absolute denatured with 1 % MEK and 0.001 % Bitrex for analysis EMSURE®	64-17-5	≥ 99.5 %	≤ 0.002 %	≤ 0.1 %	2.5 l	HDPE bottle	1.02428.2500
					NEW 5 l	HDPE bottle	1.02428.5011
					1 l	HDPE bottle	1.00974.1011
Ethanol denatured with about 1 % Methyl ethyl ketone for analysis EMSURE®	64-17-5	≥ 99.5 %	≤ 0.001 %	≤ 0.1 %	2.5 l	Glass bottle	1.00974.2500
					2.5 l	HDPE bottle	1.00974.2511
					4 l	Glass bottle	1.00974.4000
					25 l	Stainless steel drum	1.00974.6025
					25 l	Metal drum	1.00974.9025
					180 l	Metal drum	1.00974.9180
					1 l	Glass bottle	1.00845.1000
Ethanamine for analysis EMSURE®	141-43-5	≥ 99.5 %		≤ 0.2 %	2.5 l	Glass bottle	1.00845.2500
					1 l	HDPE bottle	1.09623.1000
Ethyl acetate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	141-78-6	≥ 99.5 %	≤ 0.001 %	≤ 0.05 %	2.5 l	Glass bottle	1.09623.2500
					2.5 l	HDPE bottle	1.09623.2511
					4 l	Glass bottle	1.09623.4000
					NEW 5 l	HDPE bottle	1.09623.5011
					10 l	Stainless steel drum	1.09623.6010
					25 l	Stainless steel drum	1.09623.6025
					25 l	PE / Metal drum	1.09623.9026
					180 l	PE / Metal drum	1.09623.9181
Ethyl acetate for analysis EMPARTA® ACS	141-78-6	≥ 99.5 %	≤ 0.003 %	≤ 0.2 %	4 l	Glass bottle	1.07048.4000
Ethyl acetate EMPLURA®	141-78-6	≥ 99.5 %	≤ 0.003 %	≤ 0.1 %	2.5 l	HDPE bottle	8.22277.2500
					5 l	HDPE bottle	8.22277.5000



## Solvents E-H

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.
E Ethylene glycol for analysis EMSURE® Reag. Ph Eur, Reag. USP	107-21-1	≥ 99.5 %		≤ 0.1 %	1 l	HDPE bottle	1.09621.1000
					2.5 l	HDPE bottle	1.09621.2500
					4 l	Glass bottle	1.09621.4000
					25 l	PE canister	1.09621.9028
Ethylene glycol EMPLURA®	107-21-1	≥ 99.0 %		≤ 0.3 %	1 l	HDPE bottle	1.00949.1000
					2.5 l	HDPE bottle	1.00949.2500
					25 l	PE canister	1.00949.9028
Ethylene glycol monomethyl ether for analysis EMSURE® ACS, Reag. Ph Eur	109-86-4	≥ 99.5 %	≤ 0.003 %	≤ 0.1 %	1 l	Glass bottle	1.00859.1000
					2.5 l	Glass bottle	1.00859.2500
Ethyl(-)-L-lactate EMPLURA®	687-47-8	≥ 99.0 %		≤ 0.2 %	1 l	Glass bottle	1.09639.1000
					2.5 l	Glass bottle	1.09639.2500
					4 l	Glass bottle	1.09639.4000
Ethyl methyl ketone for analysis EMSURE® ACS, Reag. Ph Eur	78-93-3	≥ 99.5 %	≤ 0.001 %	≤ 0.05 %	1 l	Glass bottle	1.09708.1000
					2.5 l	Glass bottle	1.09708.2500
					4 l	Glass bottle	1.09708.4000
					25 l	Stainless steel drum	1.09708.6025
Ethyl methyl ketone (2-Butanone) EMPLURA®	78-93-3	≥ 99.0 %		≤ 0.1 %	1 l	Glass bottle	1.06014.1000
					2.5 l	Glass bottle	1.06014.2500
					10 l	Metal drum	1.06014.9011
					25 l	Stainless steel drum	1.06014.6025
					190 l	Metal drum	1.06014.9190
F FAM Benzine DIN 51635	64742-49-0				1 l	Glass bottle	1.01771.1000
					5 l	Aluminum bottle	1.01771.5000
					25 l	Stainless steel drum	1.01771.6025
Formamide for analysis EMSURE®	75-12-7	≥ 99.5 %		≤ 0.1 %	1 l	HDPE bottle	1.09684.1000
					2.5 l	HDPE bottle	1.09684.2500
Formamide EMPLURA®	75-12-7	≥ 99.0 %		≤ 0.3 %	1 l	HDPE bottle	1.04008.1000
					2.5 l	HDPE bottle	1.04008.2500
					25 l	PE canister	1.04008.9025
<b>NEW</b> Glycerol 85% (vegetable origin) for analysis EMSURE® Reag. Ph Eur		84.5 - 85.5 %		14.5 - 15.5 %	2.5 l	HDPE bottle	1.04063.2511
					10 l	PE canister	1.04063.9011
<b>NEW</b> Glycerol (vegetable origin) for analysis EMSURE® ACS, Reag. Ph Eur	56-81-5	≥ 99.5%		≤ 0.5 %	25 l	PE canister	1.04063.9026
					2.5 l	HDPE bottle	1.04057.2511
					10 l	PE canister	1.04057.9011
H n-Heptane about 85 % EMPLURA®		≥ 85.0 %	≤ 0.005 %		25 l	PE canister	1.04057.9026
					1 l	Glass bottle	1.04307.1000
					2.5 l	Glass bottle	1.04307.2500
					4 l	Glass bottle	1.04307.4000

# Ordering information

## Solvents

### Solvents H-I

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.
H  n-Heptane for analysis EMSURE® Reag. Ph Eur	142-82-5	≥ 99.0 %	≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.04379.1000
					2.5 l	Glass bottle	1.04379.2500
					2.5 l	HDPE bottle	1.04379.2511
					4 l	Glass bottle	1.04379.4000
					10 l	Stainless steel drum	1.04379.6010
					25 l	Stainless steel drum	1.04379.6025
					190 l	Metal drum	1.04379.9190
n-Heptane EMPLURA®	142-82-5	≥ 99.0 %	≤ 0.005 %		1 l	Glass bottle	1.04365.1000
					2.5 l	Glass bottle	1.04365.2500
					2.5 l	HDPE bottle	1.04365.2511
					10 l	Metal drum	1.04365.9011
					25 l	Stainless steel drum	1.04365.6025
	190 l	Stainless steel drum	1.04365.6190				
Hexanes for analysis EMPARTA® ACS		≥ 98.5 %	≤ 0.01 %		1 l	Glass bottle	1.07060.1000
					4 l	Glass bottle	1.07060.4000
n-Hexane about 85 % EMPLURA®		≥ 85.0 %		≤ 0.02 %	1 l	Glass bottle	1.04306.1000
					2.5 l	Glass bottle	1.04306.2500
					4 l	Glass bottle	1.04306.4000
n-Hexane for analysis EMSURE® ACS	110-54-3	≥ 99.0 %	≤ 0.001 %	≤ 0.005 %	1 l	Glass bottle	1.04367.1000
					2.5 l	Glass bottle	1.04367.2500
					2.5 l	HDPE bottle	1.04367.2511
					25 l	Stainless steel drum	1.04367.6025
	190 l	Metal drum	1.04367.9190				
n-Hexane for analysis EMSURE® ACS, Reag. Ph Eur	110-54-3	≥ 96.0 %	≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.04374.1000
					2.5 l	Glass bottle	1.04374.2500
					2.5 l	HDPE bottle	1.04374.2511
					4 l	Glass bottle	1.04374.4000
	25 l	Stainless steel drum	1.04374.6025				
n-Hexane for analysis EMPARTA® ACS	110-54-3	≥ 98.5 %	≤ 0.001 %	≤ 0.02 %	2.5 l	HDPE bottle	1.07023.2511
					4 l	Glass bottle	1.07023.4000
					25 l	Stainless steel drum	1.07023.6025
n-Hexane EMPLURA®	110-54-3	≥ 95.0 %		≤ 0.02 %	1 l	Glass bottle	1.04368.1000
					2.5 l	Glass bottle	1.04368.2500
					2.5 l	HDPE bottle	1.04368.2511
					10 l	Metal drum	1.04368.9011
					25 l	Stainless steel drum	1.04368.6025
					190 l	Stainless steel drum	1.04368.6190
	190 l	Metal drum	1.04368.9190				
I Isoamyl acetate EMPLURA®	123-92-2	≥ 99.0 %		≤ 0.1 %	1 l	Glass bottle	1.01231.1000
Isoamyl alcohol for analysis EMSURE® ACS, Reag. Ph Eur	123-51-3	≥ 99.0 %	≤ 0.002 %	≤ 0.2 %	1 l	Glass bottle	1.00979.1000
					2.5 l	Glass bottle	1.00979.2500
					4 l	Glass bottle	1.00979.4000
					25 l	Stainless steel drum	1.00979.6025

## Solvents I–M

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.
I Isoamyl alcohol (mixture of isomers) for determination of fat acc. to Gerber	30899-19-5			≤ 0.3 %	1 l	Glass bottle	1.00978.1000
					10 l	Stainless steel drum	1.00978.6010
Isobutanol for analysis EMSURE® ACS, Reag. Ph Eur	78-83-1	≥ 99.0 %	≤ 0.001 %	≤ 0.05 %	1 l	Glass bottle	1.00984.1000
					2.5 l	Glass bottle	1.00984.2500
Isobutanol (Isobutyl alcohol) EMPLURA®	78-83-1	≥ 98.5 %		≤ 0.05 %	2.5 l	Glass bottle	1.00985.2500
					25 l	Stainless steel drum	1.00985.6025
					190 l	Metal drum	1.00985.9190
Isobutyl methyl ketone for extraction analysis EMSURE® ACS, Reag. Ph Eur	108-10-1	≥ 99.0 %	≤ 0.001 %	≤ 0.1 %	1 l	Glass bottle	1.06146.1000
					2.5 l	Glass bottle	1.06146.2500
					4 l	Glass bottle	1.06146.4000
					25 l	Stainless steel drum	1.06146.6025
Isobutyl methyl ketone EMPLURA®	108-10-1	≥ 99.0 %			2.5 l	Glass bottle	8.20820.2500
					10 l	Stainless steel drum	8.20820.6010
					25 l	Stainless steel drum	8.20820.6025
Isohexane for analysis EMSURE®	92112-69-1	≥ 95.0 %	≤ 10 mg/l	≤ 0.01 %	1 l	Glass bottle	1.04333.1000
					2.5 l	Glass bottle	1.04333.2500
Isooctane for analysis EMSURE® ACS, Reag. Ph Eur	540-84-1	≥ 99.5 %	≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.04727.1000
					2.5 l	Glass bottle	1.04727.2500
					4 l	Glass bottle	1.04727.4000
					10 l	Stainless steel drum	1.04727.6010
					25 l	Stainless steel drum	1.04727.6025
K Kerosene EMPLURA® <b>NEW</b>	64742-48-9				4 l	Glass bottle	1.09774.4000
M Methanol for analysis EMSURE® ACS, ISO, Reag. Ph Eur	67-56-1	≥ 99.9 %	≤ 0.0005 %	≤ 0.05 %	1 l	Glass bottle	1.06009.1000
					1 l	HDPE bottle	1.06009.1011
					2.5 l	Glass bottle	1.06009.2500
					2.5 l	HDPE bottle	1.06009.2511
					4 l	Glass bottle	1.06009.4000
					5 l	HDPE bottle	1.06009.5000
					10 l	Stainless steel drum	1.06009.6010
					25 l	Stainless steel drum	1.06009.6025
Methanol for analysis EMPARTA® ACS	67-56-1	≥ 99.8 %	≤ 0.001 %	≤ 0.1 %	2.5 l	HDPE bottle	1.07018.2511
					4 l	Glass bottle	1.07018.4000
					25 l	Metal drum	1.07018.9026
Methanol EMPLURA®	67-56-1	≥ 99.5 %	≤ 0.001 %	≤ 0.1 %	1 l	HDPE bottle	8.22283.1000
					2.5 l	HDPE bottle	8.22283.2500
					5 l	HDPE bottle	8.22283.5000
					10 l	Metal drum	8.22283.9011
					25 l	Metal drum	8.22283.9025
					180 l	PE / Metal drum	8.22283.9180
1-Methoxy-2-propanol EMPLURA®	107-98-2	≥ 99.5 %		≤ 0.1 %	1 l	Glass bottle	1.16738.1000
					25 l	Stainless steel drum	1.16738.6025

# Ordering information

## Solvents

### Solvents M-P

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.
M Methyl benzoate EMPLURA®	93-58-3	≥ 99.0 %		≤ 0.1 %	1 l	Glass bottle	1.06059.1000
					2.5 l	Glass bottle	1.06059.2500
					25 l	Stainless steel drum	1.06059.6025
1-Methyl-2-pyrrolidone for analysis EMPARTA® ACS	872-50-4	≥ 99.0 %		≤ 0.05 %	4 l	Glass bottle	1.07063.4000
1-Methyl-2-pyrrolidone EMPLURA®	872-50-4	≥ 99.5 %		≤ 0.1 %	1 l	HDPE bottle	8.06072.1000
					2.5 l	HDPE bottle	8.06072.2500
					10 l	Metal drum	8.06072.9011
					25 l	PE canister	8.06072.9025
2-Methyltetrahydrofuran EMPLURA®	96-47-9	≥ 99.0 %		≤ 0.1 %	1 l	Glass bottle	1.08292.1000
					2.5 l	Glass bottle	1.08292.2500
					4 l	Glass bottle	1.08292.4000
O 1-Octanol EMPLURA®	111-87-5	≥ 99.0 %		≤ 0.1 %	1 l	Glass bottle	1.00991.1000
					25 l	Stainless steel drum	1.00991.6025
P n-Pentane about 95 % EMPLURA®	109-66-0	≥ 95.0 %	≤ 0.005 %		1 l	Glass bottle	1.07176.1000
					5 l	Aluminum bottle	1.07176.5000
					190 l	Metal drum	1.07176.9190
n-Pentane for analysis EMSURE®	109-66-0	≥ 99.0 %	≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.07177.1000
					2.5 l	Glass bottle	1.07177.2500
					4 l	Glass bottle	1.07177.4000
n-Pentane EMPLURA®	109-66-0	≥ 99.0 %			1 l	Glass bottle	8.20957.1000
					2.5 l	Glass bottle	8.20957.2500
					25 l	Metal drum	8.20957.9025
Petroleum for analysis EMSURE®	64742-48-9			≤ 0.01 %	1 l	Glass bottle	1.09718.1000
					2.5 l	Glass bottle	1.09718.2500
					25 l	Stainless steel drum	1.09718.6025
Petroleum benzene boiling range 30 – 50°C for analysis EMSURE®	64742-49-0		≤ 0.003 %	≤ 0.01 %	1 l	Glass bottle	1.01786.1000
					2.5 l	Glass bottle	1.01786.2500
Petroleum benzene boiling range to about 40°C EMPLURA®	64742-49-0		≤ 0.002 %	≤ 0.01 %	1 l	Glass bottle	1.00915.1000
					5 l	Aluminum bottle	1.00915.5000
					25 l	Stainless steel drum	1.00915.6025
Petroleum benzene for analysis boiling range 40 – 60°C EMSURE® ACS, ISO	64742-49-0		≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.01775.1000
					2.5 l	Glass bottle	1.01775.2500
					4 l	Glass bottle	1.01775.4000
					5 l	Aluminum bottle	1.01775.5000
					10 l	Stainless steel drum	1.01775.6010
					25 l	Stainless steel drum	1.01775.6025
					190 l	Metal drum	1.01775.9190
Petroleum benzene boiling range 40 – 80°C EMPLURA®			≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.01773.1000
					5 l	Aluminum bottle	1.01773.5000
					25 l	Stainless steel drum	1.01773.6025
Petroleum benzene boiling range 50 – 70°C EMSURE® Reag. Ph Eur					500 ml	Glass bottle	1.59542.0500

## Solvents P

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.
P Petroleum benzine boiling range 50 – 70°C EMPLURA®			≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.00910.1000
					5 l	Aluminum bottle	1.00910.5000
					25 l	Stainless steel drum	1.00910.6025
Petroleum benzine boiling range 60 – 80°C for analysis EMSURE®			≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.01774.1000
					2.5 l	Glass bottle	1.01774.2500
					5 l	Aluminum bottle	1.01774.5000
					25 l	Stainless steel drum	1.01774.6025
Petroleum benzine boiling range 80 – 100°C for analysis EMSURE®	64742-49-0		≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.01777.1000
Petroleum benzine boiling range 100 – 120°C for analysis EMSURE® Reag. Ph Eur	64742-49-0		≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.01781.1000
Petroleum benzine boiling range 100 – 140°C (Naphta Benzine) EMPLURA®	64742-49-0		≤ 0.005 %	≤ 0.01 %	1 l	Glass bottle	1.01770.1000
					5 l	Aluminum bottle	1.01770.5000
					25 l	Stainless steel drum	1.01770.6025
Petroleum ether for denaturation					1 l	Glass bottle	1.01769.1000
					5 l	Aluminum bottle	1.01769.5000
					10 l	Stainless steel drum	1.01769.6010
					25 l	Stainless steel drum	1.01769.6025
					190 l	Metal drum	1.01769.9190
Piperidine for analysis EMSURE®	110-89-4	≥ 99.0 %	≤ 0.1 %	≤ 0.3 %	500 ml	Glass bottle	1.09724.0500
1,2-Propanediol EMPLURA®	57-55-6	≥ 99.0 %		≤ 0.2 %	1 l	HDPE bottle	8.22324.1000
					5 l	HDPE bottle	8.22324.5000
1-Propanol for analysis EMSURE® ACS, Reag. Ph Eur	71-23-8	≥ 99.5 %	≤ 0.001 %	≤ 0.05 %	1 l	Glass bottle	1.00997.1000
					2.5 l	Glass bottle	1.00997.2500
					4 l	Glass bottle	1.00997.4000
					25 l	Stainless steel drum	1.00997.6025
1-Propanol EMPLURA®	71-23-8	≥ 99.0 %		≤ 0.2 %	1 l	Glass bottle	1.00996.1000
					2.5 l	Glass bottle	1.00996.2500
					25 l	Stainless steel drum	1.00996.6025
2-Propanol for analysis EMSURE® ACS, ISO, Reag. Ph Eur	67-63-0	≥ 99.8 %	≤ 0.001 %	≤ 0.05 %	1 l	Glass bottle	1.09634.1000
					1 l	HDPE bottle	1.09634.1011
					2.5 l	Glass bottle	1.09634.2500
					2.5 l	HDPE bottle	1.09634.2511
					4 l	Glass bottle	1.09634.4000
					5 l	HDPE bottle	1.09634.5000
					10 l	Stainless steel drum	1.09634.6010
					25 l	Stainless steel drum	1.09634.6025
					190 l	Stainless steel drum	1.09634.6190
					180 l	PE / Metal drum	1.09634.9180
2-Propanol for analysis EMPARTA® ACS	67-63-0	≥ 99.5 %	≤ 0.001 %	≤ 0.2 %	2.5 l	HDPE bottle	1.07022.2511
					4 l	Glass bottle	1.07022.4000
					25 l	Metal drum	1.07022.9026

# Ordering information

## Solvents

### Solvents P-T

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.	
P	2-Propanol EMPLURA®	67-63-0	≥ 99.5 %	≤ 0.002 %	≤ 0.2 %	1 l	HDPE bottle	8.18766.1000
						2.5 l	HDPE bottle	8.18766.2500
						10 l	Metal drum	8.18766.9011
						25 l	Metal drum	8.18766.9025
Pyridine for analysis EMSURE® ACS, Reag. Ph Eur	110-86-1	≥ 99.5 %	≤ 0.002 %	≤ 0.1 %	100 ml	Glass bottle	1.09728.0100	
					500 ml	Glass bottle	1.09728.0500	
					1 l	Glass bottle	1.09728.1000	
					2.5 l	Glass bottle	1.09728.2500	
					4 l	Glass bottle	1.09728.4000	
					25 l	Stainless steel drum	1.09728.6025	
Pyridine for analysis EMPARTA® ACS	110-86-1	≥ 99.0 %	≤ 0.002 %	≤ 0.1 %	0.5 l	Glass bottle	1.94601.0500	
					2.5 l	Glass bottle	1.94601.2500	
					4 l	Glass bottle	1.94601.4000	
Pyridine EMPLURA®	110-86-1	≥ 99.0 %	≤ 0.01 %	≤ 0.1 %	1 l	Glass bottle	1.07462.1000	
					2.5 l	Glass bottle	1.07462.2500	
					25 l	Stainless steel drum	1.07462.6026	
T	Tetrachloroethylene EMPLURA®	127-18-4	≥ 99.0 %	≤ 0.001 %	≤ 0.005 %	190 l	Metal drum	1.07462.9190
						1 l	Glass bottle	1.00964.1000
						2.5 l	Glass bottle	1.00964.2500
						25 l	Stainless steel drum	1.00964.6025
Tetrahydrofuran for analysis EMSURE® ACS, Reag. Ph Eur	109-99-9	≥ 99.8 %	≤ 0.0005 %	≤ 0.03 %	190 l	Metal drum	1.00964.9190	
					1 l	Glass bottle	1.09731.1000	
					2.5 l	Glass bottle	1.09731.2500	
					4 l	Glass bottle	1.09731.4000	
					10 l	Stainless steel drum	1.09731.6010	
Tetrahydrofuran for analysis EMPARTA® ACS	109-99-9	≥ 99.5 %	≤ 0.03 %	≤ 0.05 %	25 l	Stainless steel drum	1.09731.6025	
					2.5 l	Glass bottle	1.07025.2500	
					4 l	Glass bottle	1.07025.4000	
Tetrahydrofuran EMPLURA®	109-99-9	≥ 99.0 %		≤ 0.1 %	1 l	Glass bottle	1.08114.1000	
					2.5 l	Glass bottle	1.08114.2500	
					25 l	Stainless steel drum	1.08114.6025	
					190 l	Stainless steel drum	1.08114.6190	
					190 l	Metal drum	1.08114.9190	
Toluene for analysis EMSURE® ACS, ISO, Reag. Ph Eur	108-88-3	≥ 99.9 %	≤ 0.0005 %	≤ 0.03 %	1 l	Glass bottle	1.08325.1000	
					2.5 l	Glass bottle	1.08325.2500	
					2.5 l	HDPE bottle	1.08325.2511	
					4 l	Glass bottle	1.08325.4000	
					5 l	HDPE bottle	1.08325.5011	
					10 l	Stainless steel drum	1.08325.6010	
					25 l	Stainless steel drum	1.08325.6025	
190 l	Metal drum	1.08325.9190						

## Solvents T-Z

Product	CAS No.	Purity (GC)	Evap. residue	Water	Content	Packaging	Ord. No.
T Toluene for analysis EMPARTA® ACS	108-88-3	≥ 99.5 %	≤ 0.001 %	≤ 0.03 %	2.5 l	Glass bottle	1.07019.2500
					2.5 l	HDPE bottle	1.07019.2511
					4 l	Glass bottle	1.07019.4000
Toluene EMPLURA®	108-88-3	≥ 99.0 %			1 l	Glass bottle	1.08323.1000
					2.5 l	Glass bottle	1.08323.2500
					10 l	Metal drum	1.08323.9011
					25 l	Stainless steel drum	1.08323.6025
190 l	Metal drum	1.08323.9190					
1,1,2-Trichlorotrifluoroethane for analysis EMSURE® Reag. Ph Eur	76-13-1	≥ 99.8 %	≤ 0.0005 %	≤ 0.005 %	2.5 l	Glass bottle	1.08440.2500
Triethanolamine EMPLURA®	102-71-6			≤ 0.3 %	5 l	PE canister	8.22341.5000
					25 l	PE canister	8.22341.9026
U n-Undecane for analysis EMSURE®	1120-21-4	≥ 99.0 %		≤ 0.01 %	100 ml	Glass bottle	1.09795.0100
W Water for analysis EMSURE®	7732-18-5	≥ 99.0 %	≤ 1 mg/l	≤ 0.01 %	4 l	Titripac	1.16754.4000
					5 l	HDPE bottle	1.16754.5000
					10 l	Titripac	1.16754.9010
X p-Xylene for analysis EMSURE® ISO	106-42-3	≥ 99.0 %	≤ 0.001 %	≤ 0.01 %	1 l	Glass bottle	1.08684.1000
					2.5 l	Glass bottle	1.08684.2500
					25 l	Stainless steel drum	1.08684.6025
NEW Xylene (isomeric mixture) for analysis EMSURE® ACS, ISO, Reag. Ph Eur	1330-20-7	≥ 98.5 %	≤ 0.002 %	≤ 0.03 %	2.5 l	Glass bottle	1.08297.2500
					4 l	Glass bottle	1.08297.4000
NEW Xylenes (isomeric mixture) for analysis EMPARTA® ACS	1330-20-7	≥ 98.5 %	≤ 0.002 %	≤ 0.05 %	2.5 l	Glass bottle	1.08633.2500
					4 l	Glass bottle	1.08633.4000
NEW Xylenes (isomeric mixture) EMPLURA®	1330-20-7		≤ 0.002 %	≤ 0.05 %	2.5 l	Glass bottle	1.08634.2500
					4 l	Glass bottle	1.08634.4000

► For more details about our packaging, please see “Packaging and Safe Handling” on page 42

# GENERAL APPLICATION CHEMICALS

Safety, simplicity and sustainability

We offer a comprehensive range of general application chemicals, which are designed to maximize safety and simplicity in daily lab work. Wherever possible, we use natural products to ensure that we both work more sustainably and achieve our environmental targets.

## Learn more

The following pages present a selection of our general application chemicals. For further products and information, please visit [www.merckmillipore.com/safety-products](http://www.merckmillipore.com/safety-products), or download our Inorganic Reagents catalog on [www.merckmillipore.com/inorganic-reagents-catalog](http://www.merckmillipore.com/inorganic-reagents-catalog).

► For more information about drying agents see page 130

► For more information about absorbents for spilled liquids see page 128







► For more information about cleaning applications see page 122

► For more information about absorption and filtration see page 134



# Cleaning Applications

## Extran® cleaning agents for reliable, residue-free cleaning

For over 30 years, Extran® cleaning agents have enabled precise scientific working procedures in labs and production facilities around the world. Thanks to their thorough, residue-free cleaning, Extran® products ensure that everything that comes into contact with chemicals or biological substances is free of impurities – before and after use. Despite their exceptional cleaning strength, Extran® products contain biodegradable ingredients that are free of toxins, so they are gentle on the environment and on the health of laboratory staff.

### Safer

Extran® cleaning agents not only supports your work, but also protects your health. Our cleaning agents contain no chlorine or other toxic ingredients, and avoid all scents and dyestuffs. Extran® products are also free of silicones, oxidants, and NTA (nitrilotriacetic acid).

### Greener

Extran® cleaning agents are produced from biodegradable active ingredients under strictly controlled conditions, and fulfill the highest standards in environmental protection. In almost all cases, Extran® cleaning agents avoid the use of the toxic cleaning agent chromosulfuric acid, which is still common on the market.

### Simpler

For added certainty, we provide a practical and easy-to-use application aid to prove the absence of nonionic surfactant residues by means of a photometric test. This helps you prepare your cleaning validation, thus saving you time and costs.

### Learn more

The following pages present a selection of Extran® cleaning agents. For further products and information, please visit [www.merckmillipore.com/extran](http://www.merckmillipore.com/extran), or download our Inorganic Reagents catalog on [www.merckmillipore.com/inorganic-reagents-catalog](http://www.merckmillipore.com/inorganic-reagents-catalog).

### Your advantages

- Reliable, residue-free all-purpose cleaner
- Free from NTA thus safer for lab staff
- Free from scents and dyestuffs
- Free from chlorine or other toxic ingredients
- All active ingredients are biodegradable
- Validation support to prove the absence of surfactants



# Cleaning Applications

## Extran® cleaning agents for manual washing

### Manual washing

Extran® MA cleaning agents for manual washing are universally applicable concentrates for the production of water baths. Simply immerse equipment in the diluted solution for reliable, residue-free cleaning.

### General application advice

- Use water to prepare the cleaning solution. If slight sedimentation of the hardener occurs, more Extran® cleaning agents should be added. De-mineralized water boosts the cleaning effect.
- Completely immerse items that need to be cleaned in the solution.
- Once cleaning is finished, rinse items first with tap water, then with de-mineralized water.
- Baths can be used for long periods without a noticeable decrease in the cleaning effect.
- If necessary, the rinsing liquid can be supplemented with fresh Extran® cleaning agents.
- Application duration is less than 2 hours.
- For difficult cases (e.g. plaster, blood or heavy oil), leave items in the bath a little longer.
- Heat speeds up the cleaning process.
- Extran® "cleaning agents" vs "products" are also ideally suited to ultrasound cleaning.





### Dosing aid

For dependable and economical cleaning, the detergent must be dosed precisely: too little cleans insufficiently, too much leaves residues. To ensure accurate dosing and safe handling during manual cleaning, we offer 1 l bottles with reusable dosing aids. They can also be ordered separately if required.

Extran® MA 01 liquid, alkaline	Content	Packaging	Ord. No.
Extran® MA 01 alkaline	1 l	HDPE bottle	1.07555.1000
	2.5 l	HDPE bottle	1.07555.2500
	5 l	HDPE bottle	1.07555.5000
	10 l	PE canister	1.07555.9010
	25 l	PE canister	1.07555.9025

Extran® MA 02 liquid, neutral	Content	Packaging	Ord. No.
Extran® MA 02 neutral	2.5 l	HDPE bottle	1.07553.2500
	5 l	HDPE bottle	1.07553.5000
	10 l	PE canister	1.07553.9010
	25 l	PE canister	1.07553.9025

Extran® MA 05 liquid, alkaline, phosphate-free	Content	Packaging	Ord. No.
Extran® MA 05 alkaline, phosphate-free concentrate	2.5 l	HDPE bottle	1.40000.2500
	5 l	HDPE bottle	1.40000.5000
	10 l	PE canister	1.40000.9010
	25 l	PE canister	1.40000.9025

Accessories	Ord. No.
Dosing unit (PP) 20 – 28ml for 1 l Extran® bottle	9.57571.1020
Adapter made from PP, for 10 l and 25 l Extran®	9.67212.0001

# Cleaning Applications

## Extran® cleaning agents for automated cleaning

### Automated cleaning

Extran® AP automated cleaning agents were created and tested in cooperation with leading appliance manufacturers especially for use in laboratory washing machines. The products ensure effective cleaning, while significantly limiting foam formation and minimizing residues.

Extran® AP 12 powder, alkaline	Content	Packaging	Ord. No.
Extran® AP 12 alkaline	2 kg	HDPE bottle	1.07563.2000
	10 kg	PE bucket	1.07563.9010
	25 kg	PE drum	1.07563.9025

Extran® AP 17 liquid, alkaline	Content	Packaging	Ord. No.
Extran® AP 17 liquid, alkaline concentrate	2.5 l	HDPE bottle	1.40006.2500
	5 l	HDPE bottle	1.40006.5000
	10 l	PE canister	1.40006.9010
	25 l	PE canister	1.40006.9025

Extran® AP 21 liquid, acidic with phosphoric acid	Content	Packaging	Ord. No.
Extran® AP 21 acidic with phosphoric acid	2.5 l	HDPE bottle	1.07559.2500
	10 l	PE canister	1.07559.9010
	25 l	PE canister	1.07559.9025

Extran® AP 22 liquid, acidic with citric acid	Content	Packaging	Ord. No.
Extran® AP 22 acidic with citric acid	2.5 l	HDPE bottle	1.07561.2500
	10 l	PE canister	1.07561.9010
	25 l	PE canister	1.07561.9025

### Universal adapter

Larger volumes of detergent, such as 10 and 25 l cans, are typically used for cleaning equipment. The cans should be connected tightly to washing machines to prevent spraying and potential health risks. Since various types of machines are used around the world with different connection systems, we have designed a universal adapter that fits them all. It enables secure connection between different machines and detergent cans to avoid spills, protect personnel and prevent external contamination.

### Your advantages

- Safety: Secure connection between cans and washing machines prevents spills and protects users
- Reliability: External (airborne) contamination is avoided, thus analytical results are unaffected



# Absorbents for spilled liquids

Chemizorb® absorbents for safe and swift absorption

Accidents happen in every lab. With Chemizorb® absorbents, you can remove aggressive or unpleasant spilled liquids quickly and safely. Chemizorb® absorbents consist of porous mineral or synthetic copolymers that are chemically inert, and are capable of taking up 100 to 400 percent of their own weight in liquid material.

## Learn more

For further products and information, please visit [www.merckmillipore.com/chemizorb](http://www.merckmillipore.com/chemizorb), or download our Inorganic Reagents catalog on [www.merckmillipore.com/inorganic-reagents-catalog](http://www.merckmillipore.com/inorganic-reagents-catalog).







### The »all-rounders«

Chemizorb® powder and granule absorbents are insoluble in water and in all other media that are liquid at room temperature. These “all-rounders” are suitable for removing nearly all kinds of aqueous spills, such as acids, alkalis and solvents.

Chemizorb® powder	Content	Packaging	Ord. No.
Chemizorb® powder absorbent for spilled liquids	500 g	HDPE bottle	1.02051.0500
	25 kg	Fibre carton	1.02051.9025
Chemizorb® granules	Content	Packaging	Ord. No.
Chemizorb® granules absorbent for spilled liquids	1 kg	HDPE bottle	1.01568.1000
	5 kg	Bucket, plastic	1.01568.5000
	20 kg	Paper sack	1.01568.9020
	20 kg	PE drum	1.01568.9021

### The »specialists«

We offer specific absorbents for alkalis, acids, and hydrofluoric acid. Each contains special carrier materials and water-soluble neutralizers, as well as pH indicators that help you visually monitor the neutralization of the spilled chemicals. Please note that the reaction may generate heat and gas.

Chemizorb® OH <sup>-</sup>	Content	Packaging	Ord. No.
Chemizorb® OH <sup>-</sup> absorbent and neutralizer for spilled alkalis, with indicator	1 kg	HDPE bottle	1.01596.1000
Chemizorb® H <sup>+</sup>	Content	Packaging	Ord. No.
Chemizorb® H <sup>+</sup> absorbent and neutralizer for spilled acids, with indicator	500 g	HDPE bottle	1.02491.0500
	2.5 kg	Bucket, plastic	1.02491.2500
Chemizorb® HF	Content	Packaging	Ord. No.
Chemizorb® HF absorbent and neutralizer for spilled hydrofluoric acid, with indicator	1 kg	HDPE bottle	1.01591.1000

### The »all-in-one« set for mercury

Chemizorb® Hg kit Mercury is an all-inclusive set of reagents and auxiliaries for safe and complete removal of drops of mercury and traces of elementary mercury. The reagents in the set are sufficient for decontaminating an area of around one square meter.

Chemizorb® Hg	Content	Packaging	Ord. No.
Chemizorb® Hg Reagents and accessories for absorbent for mercury	1 set	PE case	1.12576.0001
1 set consisting of: 500 g of reagent 1, 100 ml of reagent 2, one small tub, one large disposal can, protective gloves, ...			
Chemizorb® Hg reagents refill pack for Ord. No. 1.12576.0001	1 set	PE can	1.01569.0001
1 set consisting of: 500 g reagent 1 and 100 ml reagent 2			



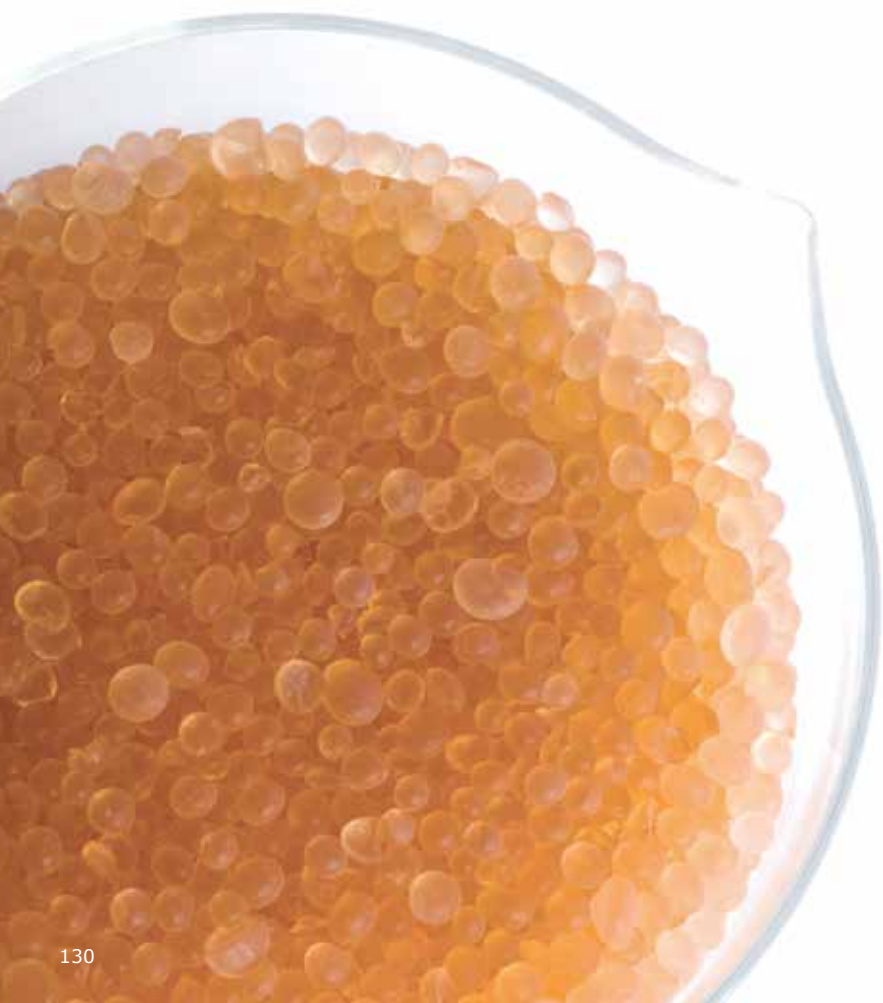
# Drying Agents

## Safe, environmentally friendly desiccants

Our drying agents are not only effective and easy to use, but also support sustainability and safety in the lab. For example, we offer silica gels with or without orange or brown indicators as an alternative to silica gel with blue indicator, which is known to be toxic and carcinogenic due to the presence of cobalt chloride.

### Your advantages

- **Reliability:** Thorough drying minimizes the effects of moisture on products to maintain their original condition
- **Convenience:** Ease of use saves time and increases lab productivity
- **Cost efficiency:** Effective drying increases the longevity of your products and avoids costly damages



### Safety information

The use of drying agents carries potential risks. These are listed below for your safety.

- Acidic and basic drying agents can be corrosive
- Magnesium perchlorate can be explosive
- Sodium and potassium can be explosive when in contact with certain organic substances, water or chlorinated hydrocarbons
- Drying agents that develop hydrogen during the drying process must be used in a well-ventilated fume chamber

### Learn more

The following pages present a selection of the most important drying agents.

For further products, information and advice, please visit

**[www.merckmillipore.com/safety-products](http://www.merckmillipore.com/safety-products)**, or download our

Inorganic Reagents catalog on

**[www.merckmillipore.com/inorganic-reagents-catalog](http://www.merckmillipore.com/inorganic-reagents-catalog)**.

# Drying Agents

## Safe, environmentally friendly desiccants

Calcium chloride [CaCl <sub>2</sub> ]	CAS No.	Content	Packaging	Ord. No.
Calcium chloride anhydrous powder Reag. Ph Eur	10043-52-4	500 g	HDPE bottle	1.02378.0500
		2.5 kg	HDPE bottle	1.02378.2500
Calcium chloride anhydrous, granular ~ 1 – 2 mm	10043-52-4	1 kg	HDPE bottle	1.02379.1000
		5 kg	HDPE bottle	1.02379.5000
		1 kg	HDPE bottle	1.02391.1000
Calcium chloride anhydrous, granular ~ 2 – 6 mm	10043-52-4	5 kg	Fibre carton	1.02391.5000
		25 kg	Fibre carton	1.02391.9025
Calcium chloride anhydrous, granular ~ 6 – 14 mm	10043-52-4	1 kg	HDPE bottle	1.02392.1000
		5 kg	Fibre carton	1.02392.5000
		25 kg	Fibre carton	1.02392.9025

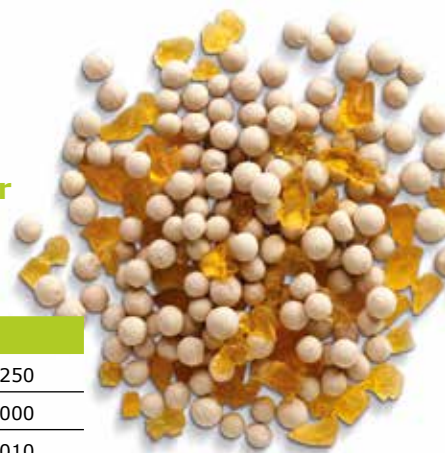
Desiccant sachets [SiO <sub>2</sub> ]	Content	Packaging	Ord. No.
Desiccant sachet 10 g silica gel with humidity indicator (orange gel) sachet: 7 x 9 cm	50 units	Metal can	1.03804.0001
Desiccant sachet 100 g silica gel with humidity indicator (orange gel) sachet: 15 x 14 cm	10 units	Metal can	1.03805.0001
Desiccant sachet 250 g silica gel with humidity indicator (orange gel) sachet: 15 x 20.5 cm	10 units	Metal can	1.03806.0001
Desiccant sachet 3 g silica gel with humidity indicator (orange gel) sachet: 4 x 7 cm	100 units	Metal can	1.03803.0001
	1000 units	Fibre carton	1.03803.0002

► Further desiccant sachets, e.g. 500 g, on request.



**Desiccant sachets**

## Molecular sieves



Molecular sieves	CAS No.	Content	Packaging	Ord. No.
Molecular sieve 0.3 nm beads ~ 2 mm <sup>1)</sup>	1318-02-1	250 g	HDPE bottle	1.05704.0250
		1 kg	HDPE bottle	1.05704.1000
		10 kg	Bucket, plastic	1.05704.9010
Molecular sieve 0.3 nm beads, with moisture indicator ~ 2 mm <sup>1)</sup>	-	250 g	HDPE bottle	1.05734.0250
		1 kg	HDPE bottle	1.05734.1000
Molecular sieve 0.3 nm rods ~ 1.6 mm (1/16")	1318-02-1	250 g	HDPE bottle	1.05741.0250
		1 kg	HDPE bottle	1.05741.1000
Molecular sieve 0.4 nm beads ~ 2 mm Reag. Ph Eur	1318-02-1	250 g	Glass bottle	1.05708.0250
		1 kg	Glass bottle	1.05708.1000
		10 kg	Bucket, plastic	1.05708.9010
Molecular sieve 0.4 nm beads, with moisture indicator ~ 2 mm	-	250 g	Glass bottle	1.05739.0250
		1 kg	Glass bottle	1.05739.1000
Molecular sieve 0.4 nm rods ~ 1.6 mm (1/16")	1318-02-1	1 kg	HDPE bottle	1.05743.1000
Molecular sieve 0.5 nm beads ~ 2 mm	1318-02-1	250 g	Glass bottle	1.05705.0250
		1 kg	Glass bottle	1.05705.1000
Molecular sieve 1.0 nm beads ~ 2 mm	1318-02-1	1 kg	Glass bottle	1.05703.1000

► 1) Molecular sieves with 0.3 nm bead form (105704) and with indicator brown gel (105734) are suitable for use in Karl Fischer titrators.

Phosphorus pentoxide [P <sub>2</sub> O <sub>5</sub> ]	CAS No.	Content	Packaging	Ord. No.
di-Phosphorus pentoxide extra pure	1314-56-3	1 kg	Glass bottle	1.00540.1000
		25 kg	PE bucket	1.00540.9025
di-Phosphorus pentoxide for analysis ACS, ISO, Reag. Ph Eur	1314-56-3	100 g	Glass bottle	1.00570.0100
		500 g	Glass bottle	1.00570.0500

Silica gel [SiO <sub>2</sub> ]	CAS No.	Content	Packaging	Ord. No.
Silica gel granules, desiccant ~ 0.2 – 1 mm	7631-86-9	1 kg	HDPE bottle	1.01905.1000
Silica gel granules, desiccant ~ 2 – 5 mm	7631-86-9	1 kg	HDPE bottle	1.01907.1000
		5 kg	PE bucket	1.01907.5000
		1 kg	HDPE bottle	1.01972.1000
Silica gel with moisture indicator (brown gel) desiccant ~ 1 – 4 mm	-	5 kg	HDPE bottle	1.01972.5000
		25 kg	PE bucket	1.01972.9025
Silica gel with indicator (orange gel), granulate ~ 1 – 3 mm	-	1 kg	HDPE bottle	1.01969.1000
		5 kg	HDPE bottle	1.01969.5000
		25 kg	PE bucket	1.01969.9025
Silica gel beads, desiccant ~ 2 – 5 mm	7631-86-9	1 kg	HDPE bottle	1.07735.1000

SICAPENT® drying agent	Content	Packaging	Ord. No.
SICAPENT® drying agent with indicator (phosphorus pentoxide for desiccators) on inert carrier material	500 ml	Glass bottle	1.00543.0500
	2.8 l	Glass bottle	1.00543.2800

# Absorption and Filtration

## Dependable, flexible and ecological

Absorption, adsorption, filtration and clarification are among the most important applications in laboratories. Our product portfolio includes a wide variety of reagents and materials for these purposes, such as activated charcoal, graphite, molecular sieves and sea sand.

### Your advantages

- Reliability: Premium reagents and materials ensure highly reliable take up and purification of a wide range of substances
- Convenience: Comprehensive portfolio allows easy ordering – from one trusted supplier
- Cost efficiency: A variety of pack sizes available to suit individual needs



### Nature in the lab

Many of the absorption and adsorption reagents and filter materials we offer for use in laboratories are produced from natural resources that are not harmful to the environment. One example is our activated charcoal, which is gained from pinewood or mineral coal. It is used in numerous applications, such as for adsorption, de-colorization and purification of gases and liquids, or as a carrier for catalysts. Another product that promotes sustainability is calcium oxide, which is extracted from natural marble, and used as a CO<sub>2</sub> absorbent among other applications.

### Learn more

The following pages present a selection of the most important absorption, adsorption and filtration products. For further solutions, information and advice, please visit

**[www.merckmillipore.com/absorption-filtration](http://www.merckmillipore.com/absorption-filtration)**, or download our Inorganic Reagents catalog on

**[www.merckmillipore.com/inorganic-reagents-catalog](http://www.merckmillipore.com/inorganic-reagents-catalog)**.

# Absorption and Filtration

## Dependable, flexible and ecological

Calcium oxide	CAS No.	Content	Packaging	Ord. No.
Calcium oxide from marble small lumps ~ 3 – 20 mm	1305-78-8	1 kg	HDPE bottle	1.02109.1000
		25 kg	Fibre carton	1.02109.9025

Charcoal activated	CAS No.	Content	Packaging	Ord. No.
Charcoal activated for analysis	7440-44-0	250 g	Metal can	1.02186.0250
		1 kg	Metal can	1.02186.1000
		20 kg	Fibre carton	1.02186.9020
Charcoal activated granular about 1.5 mm extra pure	7440-44-0	1 kg	Plastic bag	1.02514.1000
		5 kg	Fibre carton	1.02514.5000
		25 kg	Fibre carton	1.02514.9025
Charcoal activated powder extra pure	7440-44-0	1 kg	Metal can	1.02184.1000
		5 kg	Fibre carton	1.02184.5000
		20 kg	Fibre carton	1.02184.9020
Charcoal activated pure	7440-44-0	1 kg	Plastic bag	1.02183.1000
		20 kg	Fibre carton	1.02183.9020



**Charcoal**





## Glass wool

Glass wool	CAS No.	Content	Packaging	Ord. No.
Glass wool	65997-17-3	250 g	Metal can	1.04086.0250
		1 kg	Fibre carton	1.04086.1000

Sea sand	CAS No.	Content	Packaging	Ord. No.
Sea sand extra pure	7631-86-9	1 kg	HDPE bottle	1.07711.1000
		5 kg	HDPE bottle	1.07711.5000
		25 kg	Fibre carton	1.07711.9025
Sea sand purified by acid and calcined for analysis	7631-86-9	1 kg	HDPE bottle	1.07712.1000
		5 kg	HDPE bottle	1.07712.5000
		10 kg	HDPE bottle	1.07712.9010
		25 kg	Fibre carton	1.07712.9025

Sodalime	CAS No.	Content	Packaging	Ord. No.
Sodalime, granules approx. 1 – 2.5 mm with indicator for analysis	-	500 g	HDPE bottle	1.06733.0501
		2.5 kg	HDPE bottle	1.06733.2500
Sodalime pellets with indicator for analysis	-	1 kg	HDPE bottle	1.06839.1001
		5 kg	HDPE bottle	1.06839.5001
		25 kg	Fibre carton	1.06839.9025



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