Analytical Products

EMPOWER YOUR LAB

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

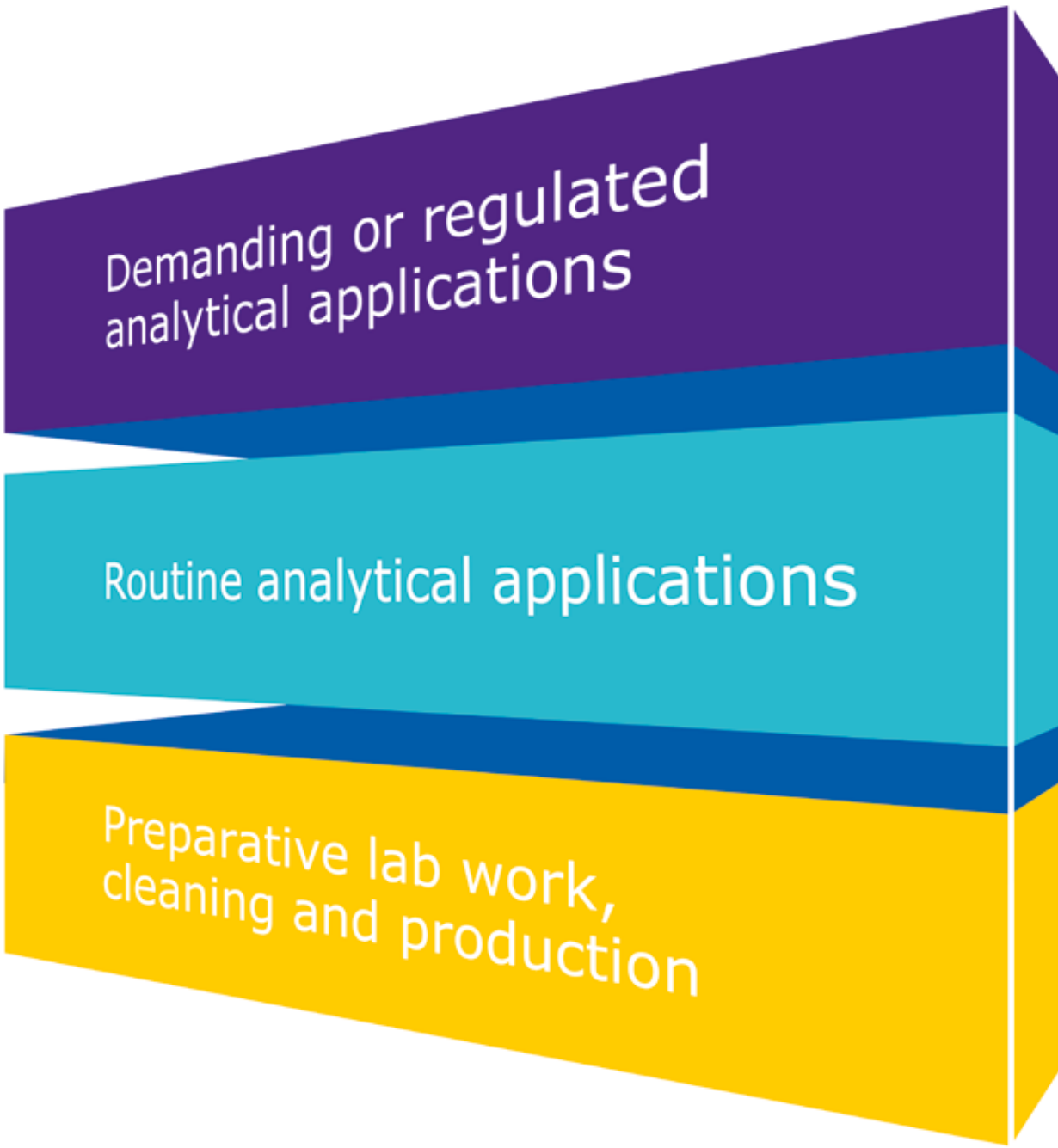
The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

your partner for world-class inorganics and solvents

At MilliporeSigma, 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.

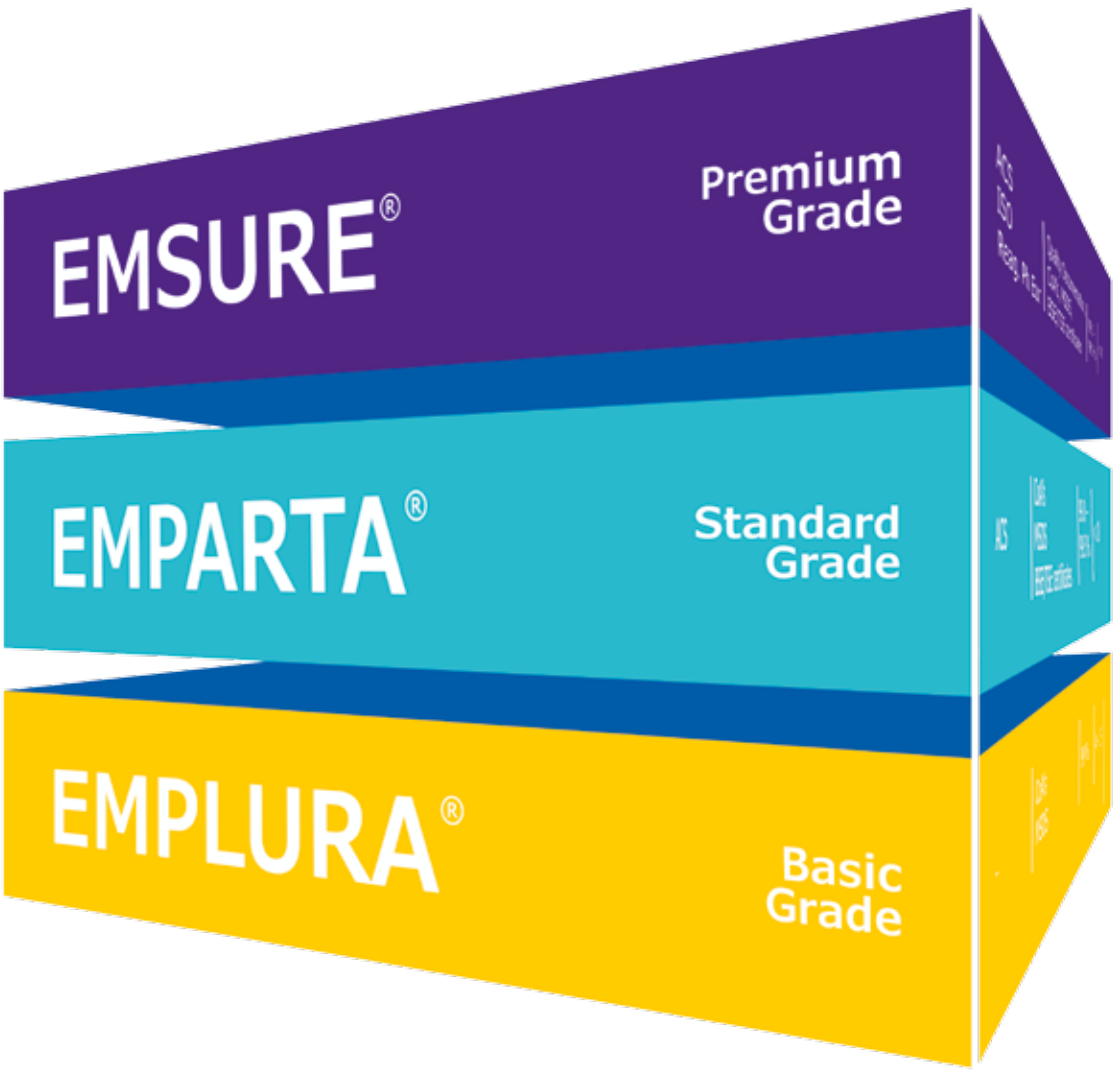

Demanding or regulated analytical applications
Routine analytical applications
Preparative lab work, cleaning and production

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®, EMPARTA® and EMPLURA®. 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.


EMSURE®
Premium Grade
EMPARTA®
Standard Grade
EMPLURA®
Basic Grade

contents

	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

Inorganics & Solvents

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)

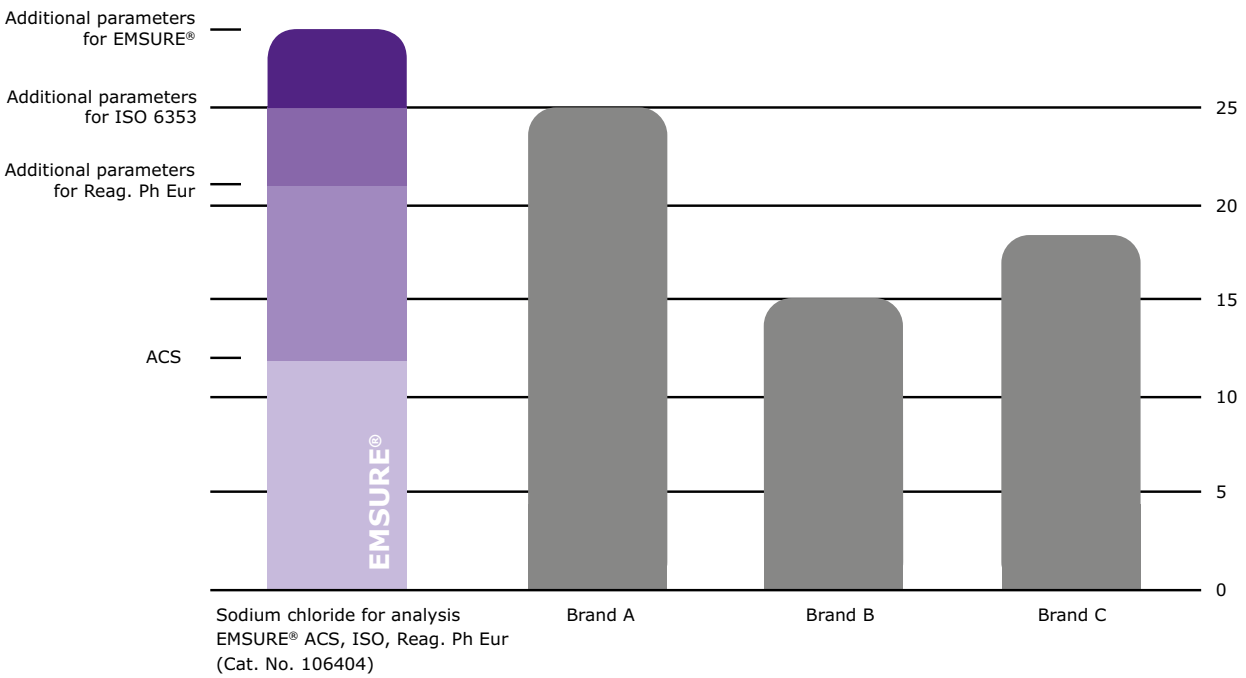
Besides pharmacopoeia regulations, the International Organization for Standardization (ISO) also sets guidelines for analytical reagents. Specifically, ISO 6353 defines the requirements for reagents used in analytical chemistry. All EMSURE® products with the designation "ISO" are compliant with ISO 6353.

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 fulfills 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

► For more information see page 20

EMPARTA®	CoA's MSDS BSE / TSE certificates

► For more information see page 32

EMPLURA®	CoA's MSDS

► For more information see page 36

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.

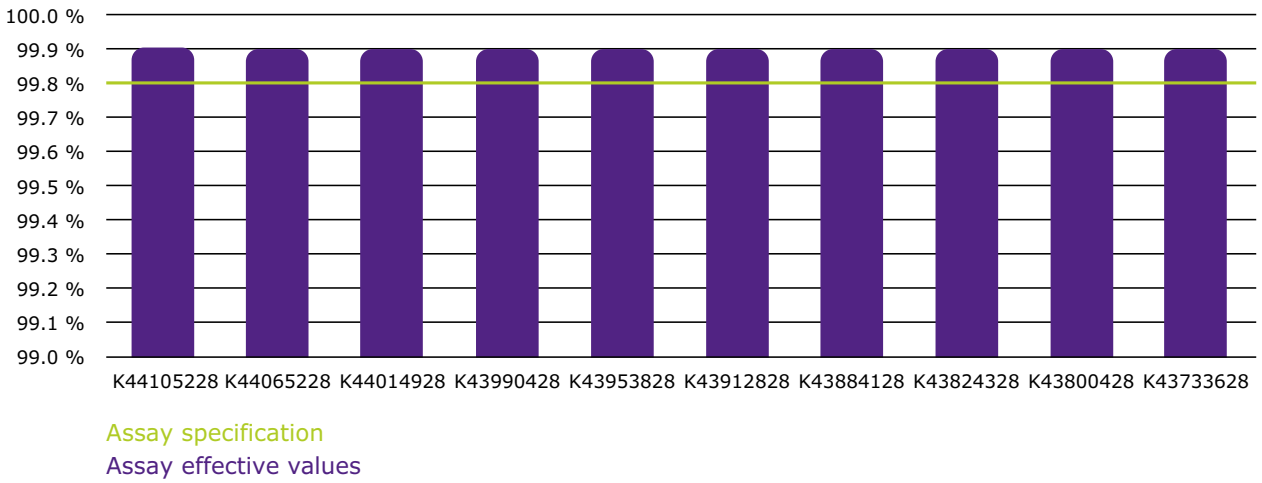
So you can trust on our analytical competence. EMPARTA® and EMPLURA® grade products are tested at one of our own labs close to its production site. EMSURE® grade products are quality controlled at our Merck KGaA, Darmstadt, Germany site.

Consistency

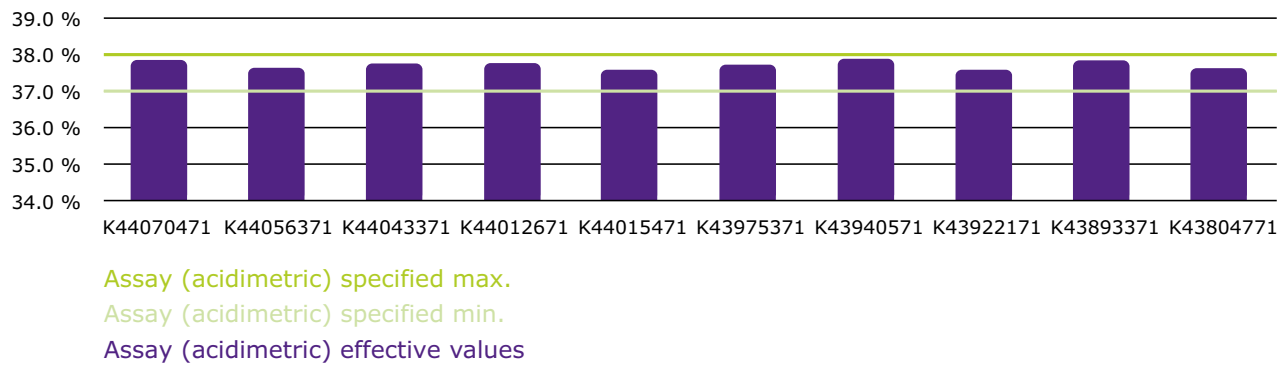
Due to their outstanding batch-to-batch consistency, each time you use our products, you can expect the same excellent quality. This not only ensures reproducible results, but also avoids the costs and complications of repeat analyses.

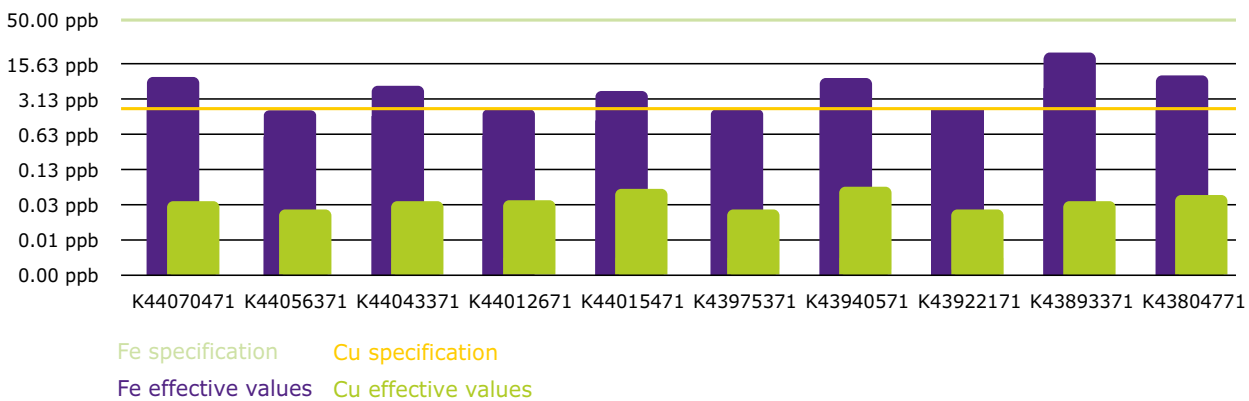
The graphs on the right demonstrate the superior batch-to-batch consistency of some of our products.

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



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





Specifications and Purity

Our promise of exceptional quality

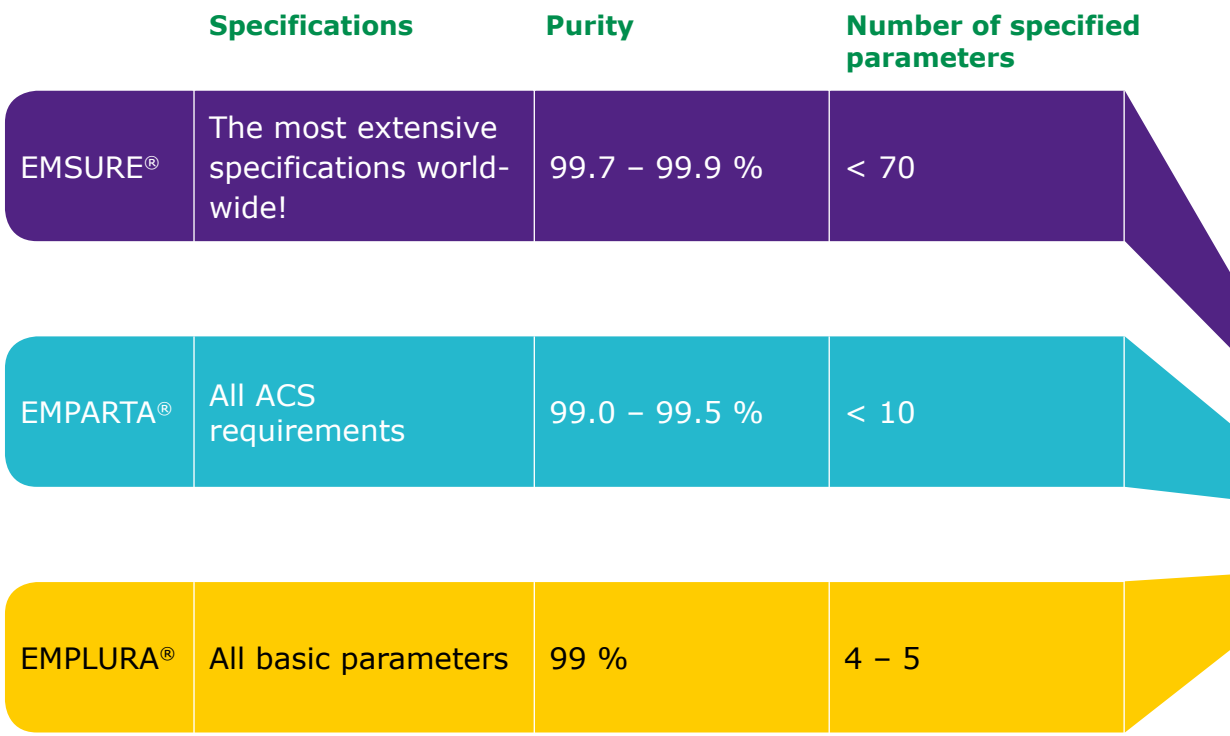
Unrivalled specifications

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.

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.



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 (<= 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	≤ 0.005	%	≤ 0.005	%
pH-value (5 %; water)	5.5 - 8.0		5.6	
Acidity or alkalinity	passes test		passes test	
Bromide (Br)	≤ 0.005	%	≤ 0.005	%
Chlorate and Nitrate (as NO_3)	≤ 0.003	%	≤ 0.003	%
Iodide (I)	≤ 0.002	%	≤ 0.002	%
Iodide (I)	passes test		passes test	
Phosphate (PO_4)	≤ 0.0005	%	≤ 0.0005	%
Sulphate (SO_4)	≤ 0.001	%	≤ 0.001	%
Total nitrogen (N)	≤ 0.001	%	≤ 0.001	%
Heavy metals (as Pb)	≤ 0.0005	%	≤ 0.0005	%
Ba (Barium)	passes test		passes test	
Ca (Calcium)	≤ 0.001	%	≤ 0.001	%
Fe (Iron)	≤ 0.0002	%	≤ 0.0002	%
Mg (Magnesium)	≤ 0.0005	%	≤ 0.0005	%
Na (Sodium)	≤ 0.005	%	≤ 0.005	%
Magnesium and alkaline-earth metals (as Ca)	≤ 0.02	%	≤ 0.02	%
Loss on Drying (105°C)	≤ 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.

Merck KGaA, Frankfurter Straße 250, 64293 Darmstadt (Germany): +49 6151 72-0
EMD Millipore Corporation - a subsidiary of Merck KGaA, Darmstadt, Germany
290 Concord Road, Billerica, MA 01821, USA, Phone: (978) 715-4321
SALSA **Version 457675** /9900000361146// Date: 19.08.2016

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

▶ Page 27

Comprehensive documentation

▶ Page 28

EMSURE® Premium Grade Products

EMSURE®

Premium Grade Inorganics and Solvents

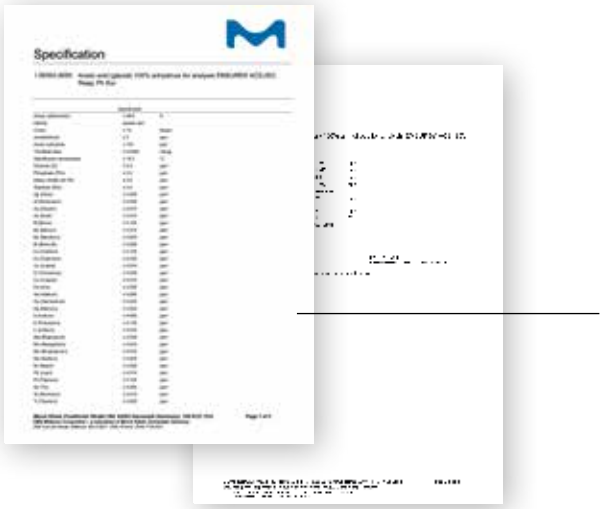
Extended impurity profile – Superior purity and clarity

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



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_4)	≤ 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

Additional parameters for EMSURE® products

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

Additional parameters for ISO 6353

Solidification temp.	≤ 16.3 °C
Identity	passes test

Additional parameters for Reag. Ph Eur

Titratable base	≤ 0.0004 meq/g
Substances reducing $KMnO_4$	≤ 20 ppm
Substances reducing $K_2Cr_2O_7$	passes test
Fe (Iron)	≤ 0.050 ppm
Heavy metals (as Pb)	≤ 0.5 ppm
Sulphate (SO_4)	≤ 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 %

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

EMSURE®

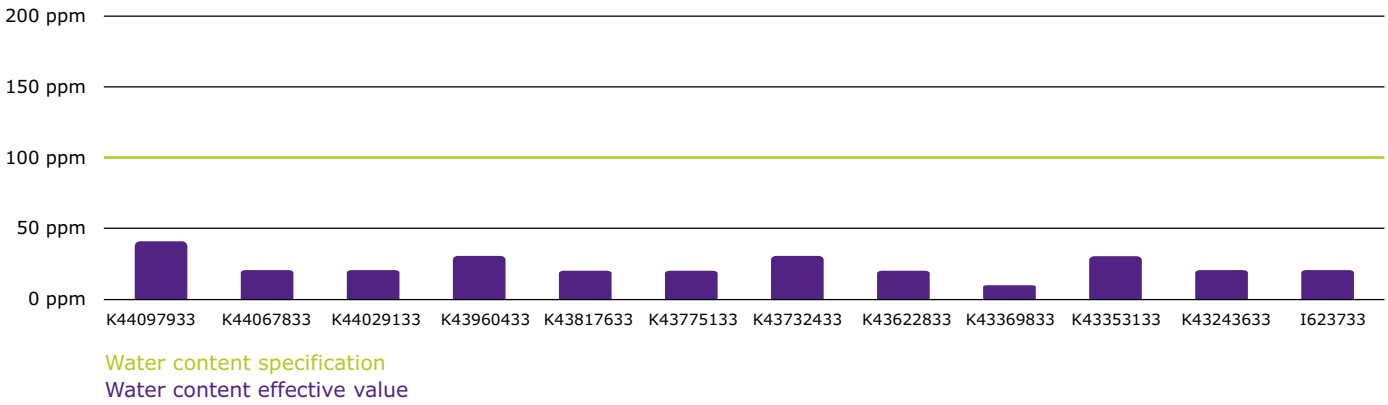
Premium Grade Inorganics and Solvents

Accuracy and reliability – Absolute trust – every time

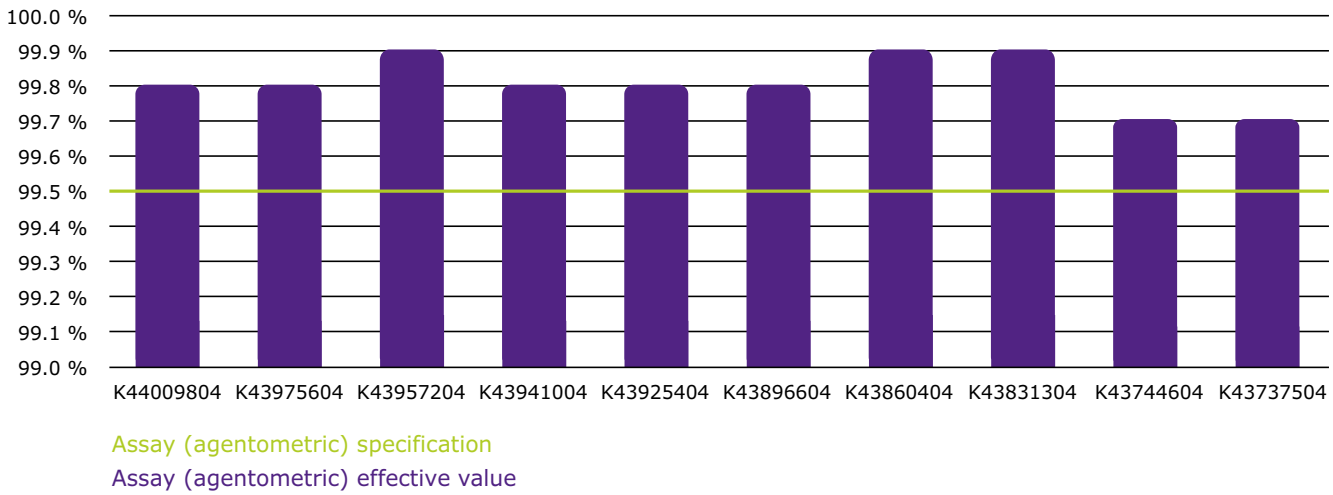
Thanks to their outstanding batch-to-batch consistency, each time you use EMSURE® products, you can expect the same excellent quality. This not only ensures reproducible results, but also reduces your analytical costs. Now, you can avoid repeat analyses, and won't need to stock up on specific product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

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

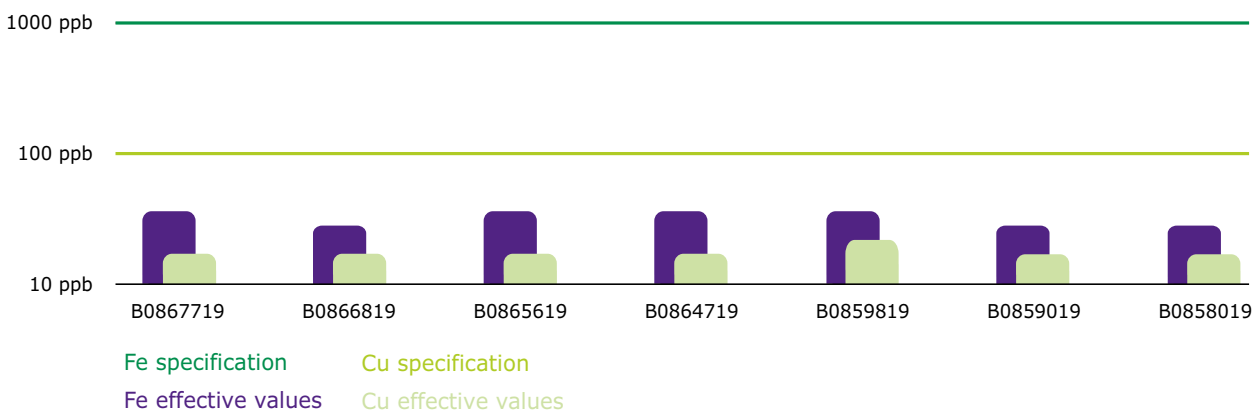
Chloroform for analysis EMSURE® ACS, ISO, Reag. Ph Eur



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

EMSURE®

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.emdmillipore.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.emdmillipore.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 sepecifications are fully compliant with ACS requirements and cover all important parameters, thus ensuring reliable and reproducible results.

Standard quality for routine applications

▶ Page 35

Compliant with ACS

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Convenient lab-sized packaging

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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.

EMPLURA®

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.

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.

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

- 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

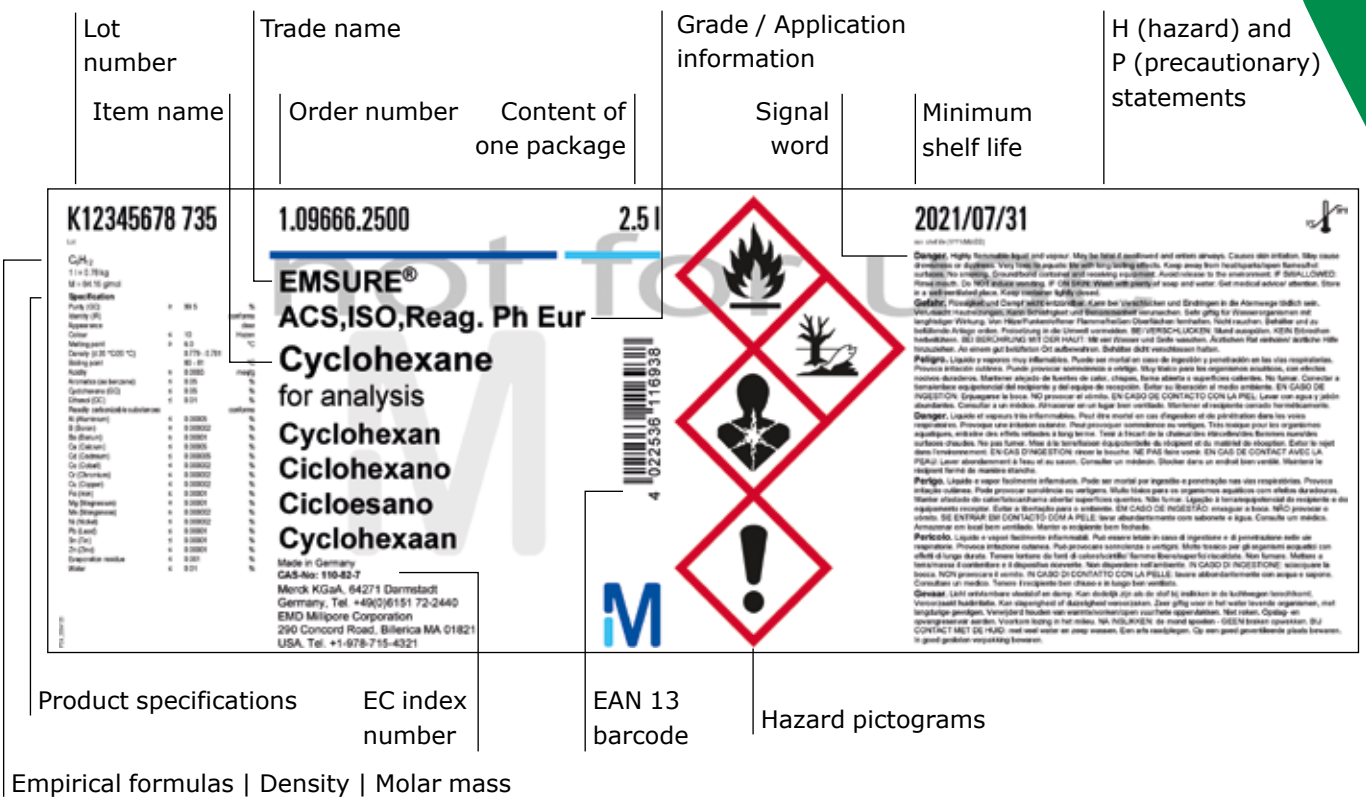
▸ For more information about amber glass bottles see page 52

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



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


500 ml


1 l


2.5 l


4 l

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.


1 l


2.5 l


5 l

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 inliner 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

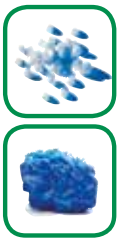
1 kg

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

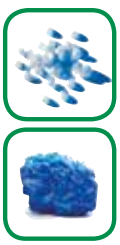


12 kg

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

Tank trucks

Intermediate bulk containers (IBC)

Stainless steel drums

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

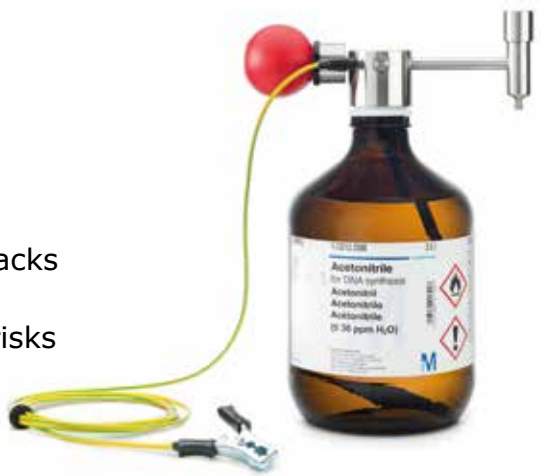
Adapter with integrated level sensor for our bottles with S40 thread (supply)	9.67100.2001
Adapter with integrated level sensor for our bottles with S40 thread (solvent disposal)	9.67100.2002
Bottle opening key S40 / S28	1.08801.0001
Display for level sensor	9.67100.2004
Label set for self-labeling lab-mixtures 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 MilliporeSigma 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

Carrier for 5 kg packaging
available separately

Wide opening
for easy withdrawal

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

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 widenecked 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

Specially developed S40 thread
withstands higher contact pressure and ensures tighter seals

Specially treated high quality aluminum
with extreme durability, inertness and shock resistance for highest safety and product quality

No outer shipping packaging necessary
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

Pour ring
for safe and ergonomic withdrawal

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

Low bottle weight
for easy, safe and economic solvents handling

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

Fassett®
specially designed for chemicals which build pressure

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

Blue canisters
available for light-sensitive chemicals

▶ Withdrawal systems for acids and bases see page 66

Technical data

	Canister		Fassett®
Parameter	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

Special formed rims
for best stackability

Standard openings
to ensure highest interoperability

Special resistant varnish
is applied on the upper side for nitric acid

Protective cap
with originality sealing

Printed / engraved UN-code
includes important safety information and provides packaging certificates

Safe and easy handling due to 2 large handles

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

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

one-way packaging

Metal drums are used as one-way packaging

Important notice:
Must not be pressurized with inert gas!

Bottom reservoir
for optimal emptying

▶ 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

Protective cap
with originality sealing

Special formed rims
for best stackability

Standard openings
to ensure highest interoperability

Printed / engraved UN-code
includes important safety information and provides packaging certificates

Safe and easy handling due to 2 large handles

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

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

returnable packaging

Cost effectiveness and environmental protection
by using the drum returning process (Europe only)

Bottom reservoir
for optimal emptying

▶ 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.

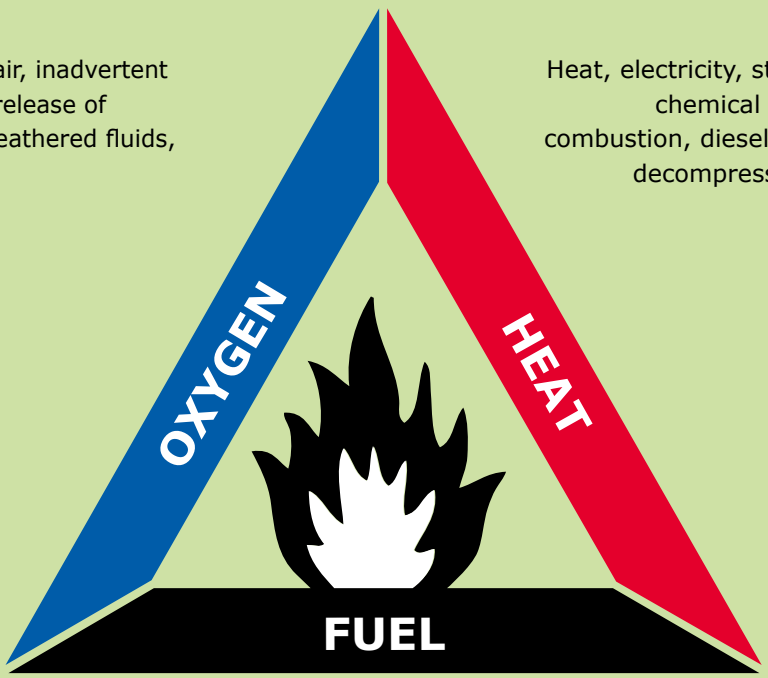
- General warnings and safety instructions must be observed.
- All components (e.g. container and withdrawal system) must be grounded separately in accordance with the applicable safety regulations.
- Grounding clamps must have metallic contact with both the container and the withdrawal system, and a 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

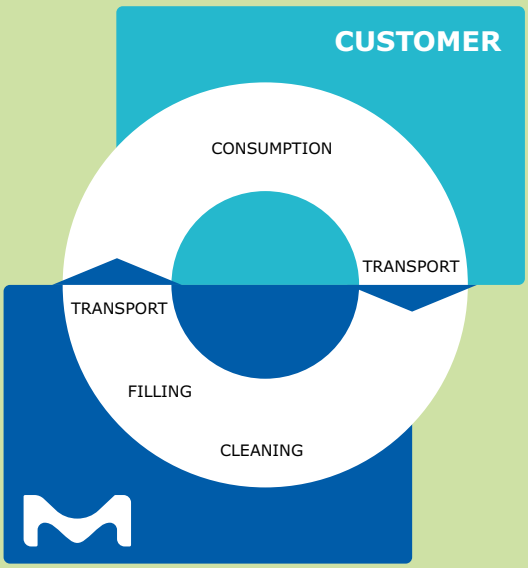
Ignition source
Heat, electricity, static electricity, friction, chemical reactions, spontaneous combustion, dieseling, pyrophors, sudden decompression, catalytic reactions



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



returnable packaging

one-way packaging

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 HNO_3 and H_2SO_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	1.67500.0001	Dispense head (PE) for acids and bases, manual pressure build-up	1.67500.0001
Hand pump ball for withdrawal systems	9.67114.0000	Hand pump ball for withdrawal systems	9.67114.0000
Dip tube (PE) for acids and bases in 25 l fassetts	1.67526.0001	Dip tube (PE) for acids and bases in 25 l canisters	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. HNO_3 and H_2SO_4

Safe withdrawal in 8 simple steps

1. Check proper operation
2. Open the container*
3. Insert dip tube and tighten*
4. Check outlet valve is closed
5. Screw in dispensing head and thighten
6. Place receptacle under the outlet and open the outlet valve
7. Pressurize by squeezing the red pump ball and fill the receptacle
8. 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.)

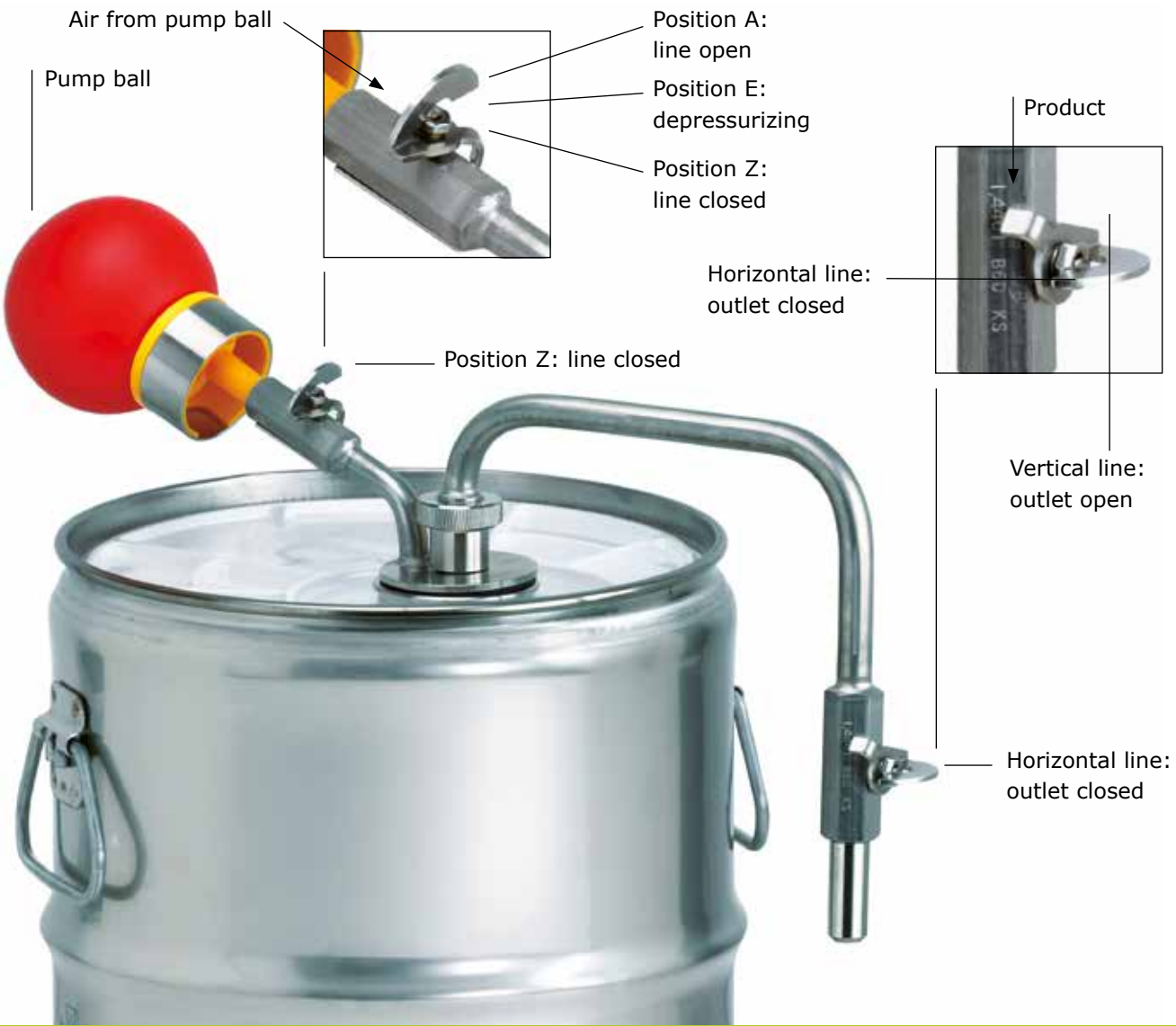
Examples for individual compilations

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
Suitability	10 l and 25 l metal and stainless steel drums
Operation mode	Manual pressure build-up by pump ball
Set components	Withdrawal system body with 2" clamp, Hand pump ball with rapid action connector, 10 l dip tube, 25 l dip tube

Necessary completive products	9.67100.1026 Dip tube for 25 l composite drum (steel/PE)	
Recommended safety products	Antistatic set (3 cables)	1.07070.0001
	Drum opening key	1.08803.0001
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

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

9.67100.9051
Spiral gas feeding tube

System at a glance

Order number	1.06710.0001	
Suitability	10 l, 25 l and 190 l stainless steel drums	
Operation mode	Pressurizing with inert gas (house gas / gas bottle)	
Set components	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

Necessary completive products	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
	Stainless steel clamp for filling nozzle attachment to drums	9.67106.0001
Recommended safety products	Antistatic set (3 cables)	1.07070.0001
	Drum opening key	1.08803.0001
Spare parts	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
Suitability	180 l / 190 l / 200 l metal and stainless steel drums
Operation mode	Manual pressure build-up by foot pump ball
Set components	Withdrawal system body with 2" thread Foot pump ball with flexible tube and rapid action connector Adjustable dip tube

Necessary completive products	Reducer (PE) from S56 x 4 to 2" thread (for combi drum)	9.67202.0000
Recommended safety products	Antistatic set (3 cables) Drum opening key	1.07070.0001 1.08803.0001
Spare parts	–	

Ordering information
Inorganics & Solvents

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_3COOH	NEW 500 ml	Safebreak bottle	1.00063.0510
				1 l	Glass bottle	1.00063.1000
				NEW 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
				2.5 l	HDPE bottle	1.00063.2511
				25 l	PE canister	1.00063.9026
				200 l	PE drum	1.00062.9200
	Acetic acid (glacial) 100 % for analysis EMPARTA® ACS	64-19-7	CH_3COOH	2.5 l	HDPE bottle	1.01830.2500
				NEW 25 l	PE canister	1.01830.9025
	Acetic anhydride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	108-24-7	$(CH_3CO)_2O$	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_2NSO_3H	100 g	HDPE bottle	1.00103.0100
				250 g	HDPE bottle	1.00103.0250
	Amidosulfuric acid EMPLURA®	5329-14-6	H_2NSO_3H	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	$C_6H_8O_6$	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	$C_4H_4N_2O_3$	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_6H_5COOH	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_3BO_3	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

EMSURE® EMPARTA® EMPLURA®

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	$C_6H_8O_7 * H_2O$	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	1.10854.2500
	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	$HOCH_2COOH$	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			NEW 500 ml	Safebreak bottle	1.00317.0510
				1 l	Glass bottle	1.00317.1000
				NEW 1 l	Safebreak bottle	1.00317.1010
				1 l	HDPE bottle	1.00317.1011
				NEW 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	Molybdatophosphoric acid hydrate for analysis EMSURE® ACS, Reag. Ph Eur	51429-74-4	$H_3[P(Mo_3O_{10})_4]$ * x H_2O	25 g	Glass bottle	1.00532.0025
				100 g	Glass bottle	1.00532.0100
	Molybdic acid about 85 % MoO_3 (containing ammonium molybdate) EMPLURA®	7782-91-4	H_2MoO_4	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
	Nitric acid 65 % for analysis EMSURE® ISO			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	Nitric acid 69 % for analysis EMSURE® ACS, Reag. Ph Eur			NEW	500 ml	Safebreak bottle	1.01799.0510
					1 l	Glass bottle	1.01799.1000
				NEW	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 EMPARTA® ACS				2.5 l	Glass bottle	1.01832.2500
				NEW	25 l	PE / Metal drum	1.01832.9025
	Nitric acid fuming 100 % for analysis EMSURE® Reag. Ph Eur	7697-37-2	HNO_3		1 l	Glass btl. pl. coat.	1.00455.1000
O	Oxalic acid dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	6153-56-6	$(COOH)_2 * 2 H_2O$		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
	Oxalic acid dihydrate EMPLURA®	6153-56-6	$(COOH)_2 * 2 H_2O$		1 kg	HDPE bottle	1.00492.1000
					5 kg	HDPE bottle	1.00492.5000
					50 kg	Fibre carton	1.00492.9050
P	Perchloric acid 60 % for analysis EMSURE® ACS				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 70 % for analysis (max. 0.0000005 % Hg) EMSURE®ACS, ISO, Reag. Ph Eur				1 l	Glass bottle	1.00514.1000
					6 x 1 l	Glass bottle	1.00514.1006
	Perchloric acid 70 – 72 % for analysis EMSURE® ACS, ISO, Reag. Ph Eur			NEW	500 ml	Safebreak bottle	1.00519.0510
					1 l	Glass bottle	1.00519.1001
				NEW	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
	Periodic acid for analysis EMSURE®	10450-60-9	H_5IO_6		25 g	Glass bottle	1.00524.0025
					100 g	Glass bottle	1.00524.0100
	meta-Phosphoric acid pieces for analysis (stabilized with sodium metaphosphate) EMSURE®				100 g	Metal can	1.00546.0100
					500 g	Metal can	1.00546.0500
	ortho-Phosphoric acid 85 % for analysis EMSURE® ACS, ISO, Reag. Ph Eur			NEW	500 ml	Safebreak bottle	1.00573.0510
					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_3PO_4		500 g	HDPE bottle	1.00565.0500

Ordering information
Acids

Acids S-T

	Product		CAS No.	Chemical formula	Content	Packaging	Ord. No.
S	Succinic acid for analysis EMSURE® ACS		110-15-6	$HOOCCH_2CH_2COOH$	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_2SO_4	NEW 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_2SO_4	NEW 500 ml	Safebreak bottle	1.00731.0510
					1 l	Glass bottle	1.00731.1000
					NEW 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_2SO_4	2.5 l	HDPE bottle	1.01833.2500
					NEW 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_2SO_4	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_2SO_4	NEW 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_2SO_4	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_2SO_4	1 l	Glass bottle	1.12223.1000
	Sulfuric acid fuming 65 % SO_3 EMPLURA®		8014-95-7	H_2SO_4 * SO_3 (1:2)	1 l	Glass btl. pl. coat.	1.00720.1000
	Sulfurous acid 5 – 6 % SO_2 for analysis EMSURE®				1 l	Glass bottle	1.00761.1000
					2.5 l	Glass bottle	1.00761.2500
T	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

EMSURE® EMPARTA® EMPLURA®

Acids T

	Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
T	Toluene-4-sulfonic acid monohydrate for analysis EMSURE® ACS	6192-52-5	$CH_3C_6H_4SO_3H * H_2O$	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_3COOH	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	$H_3[P(W_3O_{10})_4] * x H_2O$	100 g	HDPE bottle	1.00583.0100
				250 g	HDPE bottle	1.00583.0250
	Tungstophosphoric acid hydrate cryst. EMPLURA®	12501-23-4	$H_3[P(W_3O_{10})_4] * x H_2O$	100 g	HDPE bottle	1.00582.0100
				25 kg	Fibre carton	1.00582.9025
	Tungstosilicic acid hydrate for analysis EMSURE®	12027-43-9	$H_4[Si(W_3O_{10})_4] * x H_2O$	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	Ammonia solution 25 % for analysis EMSURE®			1 l	Glass bottle	1.05432.1000
				1 l	HDPE bottle	1.05432.1011
				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
				180 l	PE / Metal drum	1.05423.9180
	Ammonia solution 32 % EMPLURA®			1 l	Glass bottle	1.05426.1000
				2.5 l	Glass bottle	1.05426.2500
P	Potassium hydroxide pellets for analysis max. 0.05 % Na) EMSURE® ACS, Reag. Ph Eur	1310-58-3	KOH	1 kg	HDPE bottle	1.05029.1000
				12 kg	PE bucket	1.05029.9012
				50 kg	Fibre carton	1.05029.9050
	Potassium hydroxide pellets for analysis EMSURE®	1310-58-3	KOH	500 g	HDPE bottle	1.05033.0500
				1 kg	HDPE bottle	1.05033.1000
				5 kg	HDPE bottle	1.05033.5000
				25 kg	Fibre carton	1.05033.9025
				50 kg	Fibre carton	1.05033.9050
	Potassium hydroxide pellets EMPLURA®	1310-58-3	KOH	1 kg	HDPE bottle	1.05012.1000
				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	Sodium hydroxide pellets for analysis (max. 0.02 % K) EMSURE® ACS, ISO, Reag. Ph Eur	1310-73-2	NaOH	1 kg	HDPE bottle	1.06469.1000
				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	HDPE bottle	1.06498.0500
				1 kg	HDPE bottle	1.06498.1000
				5 kg	HDPE bottle	1.06498.5000
				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

EMSURE® EMPLURA®

Caustics and bases S-Z

	Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
S	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
				200 l	PE drum	1.05587.9200
	Sodium hydroxide solution about 36 % for analysis EMSURE®			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	$SbCl_3$	250 g	Glass bottle	1.07838.0250
					1 kg	Glass bottle	1.07838.1000
	Antimony(III) oxide for analysis EMSURE®		1309-64-4	Sb_2O_3	100 g	HDPE bottle	1.07836.0100
					1 kg	HDPE bottle	1.07836.1000
	Antimony(III) oxide EMPLURA®		1309-64-4	Sb_2O_3	2.5 kg	HDPE bottle	1.07835.2500
					50 kg	Fibre carton	1.07835.9050
B	Bismuth(III) oxide EMPLURA®		1304-76-3	Bi_2O_3	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	$CsNO_3$	25 g	Glass bottle	1.02856.0025
					1 kg	HDPE bottle	1.02856.1000
	Chromium(VI) oxide for analysis EMSURE®		1333-82-0	CrO_3	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
	Copper(II) oxide powder for analysis EMSURE® ACS		1317-38-0	CuO	100 g	HDPE bottle	1.02766.0100
					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_2O_3	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

EMSURE® EMPLURA®

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 (~ 25 g)	Fibre case	1.05812.0001
	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_4) 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_2	1 kg	Glass bottle	1.05957.1000
				25 kg	Fibre carton	1.05957.9025
	Molybdenum(VI) oxide for analysis EMSURE®	1313-27-5	MoO_3	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	$RuCl_3$ * x H_2O	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_2O	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_2	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_2	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_2O_5	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_2O_3	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
	Zinc oxide for analysis EMSURE® ACS, Reag. Ph Eur		1314-13-2	ZnO	500 g	HDPE bottle	1.08849.0500
					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	$ZrOCl_2 * 8 H_2O$	100 g	HDPE bottle	1.08917.0100

EMSURE® EMPLURA®

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

salts

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	$NH_4Al(SO_4)_2 * 12\ H_2O$	500 g	HDPE bottle	1.01031.0500
	Aluminium hydroxide powder EMPLURA® hydrargillite		21645-51-2	$Al(OH)_3 * x\ H_2O$	1 kg	HDPE bottle	1.01091.1000
					50 kg	Fibre carton	1.01091.9050
	Aluminium nitrate nonahydrate for analysis EMSURE®		7784-27-2	$Al(NO_3)_3 * 9\ H_2O$	500 g	HDPE bottle	1.01063.0500
					50 kg	Fibre carton	1.01063.9050
	Aluminium nitrate nonahydrate EMPLURA®		7784-27-2	$Al(NO_3)_3 * 9\ H_2O$	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	$KAl(SO_4)_2 * 12\ H_2O$	1 kg	HDPE bottle	1.01047.1000
					25 kg	Fibre carton	1.01047.9025
	Ammonium acetate for analysis EMSURE® ACS, Reag. Ph Eur		631-61-8	CH_3COONH_4	500 g	HDPE bottle	1.01116.0500
					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	CH_3COONH_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	$H_2NSO_3NH_4$	100 g	HDPE bottle	1.01220.0100
	Ammonium benzoate EMPLURA®		1863-63-4	$C_6H_5COONH_4$	1 kg	HDPE bottle	1.01118.1000
					50 kg	Fibre carton	1.01118.9050
	Ammonium bromide for analysis EMSURE® ACS		12124-97-9	NH_4Br	1 kg	HDPE bottle	1.01125.1000
					25 kg	Fibre carton	1.01125.9025
	Ammonium carbamate for analysis EMSURE®		1111-78-0	$H_2NCOONH_4$	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	$(NH_4)_2[Ce(NO_3)_6]$	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	$(NH_4)_4Ce(SO_4)_4 * 2\ H_2O$	100 g	HDPE bottle	1.02273.0100
	Ammonium chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur		12125-02-9	NH_4Cl	500 g	HDPE bottle	1.01145.0500
					1 kg	HDPE bottle	1.01145.1000
					5 kg	HDPE bottle	1.01145.5000
					25 kg	Fibre carton	1.01145.9025
					50 kg	Fibre carton	1.01145.9050
	Ammonium dihydrogen phosphate for analysis EMSURE® ACS, Reag. Ph Eur		7722-76-1	$(NH_4)H_2PO_4$	500 g	HDPE bottle	1.01126.0500
					5 kg	HDPE bottle	1.01126.5000
					50 kg	Fibre carton	1.01126.9050
	Ammonium fluoride for analysis EMSURE® ACS		12125-01-8	NH_4F	250 g	HDPE bottle	1.01164.0250
					1 kg	HDPE bottle	1.01164.1000
					25 kg	Fibre carton	1.01164.9025

EMSURE® EMPLURA®

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	$C_6H_8O_7$ * 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	$(NH_4)Fe(SO_4)_2$ * 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
				50 kg	Fibre carton	1.03776.9050
	Ammonium iron(II) sulfate hexahydrate for analysis EMSURE® ISO	7783-85-9	$(NH_4)_2Fe(SO_4)_2$ * 6 H_2O	500 g	HDPE bottle	1.03792.0500
				1 kg	HDPE bottle	1.03792.1000
				5 kg	HDPE bottle	1.03792.5000
				50 kg	Fibre carton	1.03792.9050
	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	$(NH_4)_2C_2O_4$ * H_2O	250 g	HDPE bottle	1.01192.0250
				1 kg	HDPE bottle	1.01192.1000
	di-Ammonium oxalate monohydrate EMPLURA®	6009-70-7	$(NH_4)_2C_2O_4$ * 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
				12 kg	PE bucket	1.01201.9012
	Ammonium peroxodisulfate EMPLURA®	7727-54-0	$(NH_4)_2S_2O_8$	1 kg	HDPE bottle	1.01200.1000
				5 kg	HDPE bottle	1.01200.5000
				25 kg	PE bucket	1.01200.9025
	Ammonium sulfate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7783-20-2	$(NH_4)_2SO_4$	100 g	HDPE bottle	1.01217.0100
				1 kg	HDPE bottle	1.01217.1000
				5 kg	HDPE bottle	1.01217.5000
				25 kg	Fibre carton	1.01217.9025
				50 kg	Fibre carton	1.01217.9050
	Ammonium thiocyanate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	1762-95-4	NH_4SCN	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	$BaCl_2 * 2 H_2O$	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	$BaCl_2 * 2 H_2O$	1 kg	HDPE bottle	1.01717.1000
	Barium hydroxide octahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur		12230-71-6	$Ba(OH)_2 * 8 H_2O$	500 g	HDPE bottle	1.01737.0500
	Barium hydroxide octahydrate EMPLURA®		12230-71-6	$Ba(OH)_2 * 8 H_2O$	1 kg	HDPE bottle	1.01735.1000
	Barium nitrate for analysis EMSURE® ACS		10022-31-8	$Ba(NO_3)_2$	500 g	HDPE bottle	1.01729.0500
					50 kg	Fibre carton	1.01729.9050
	Barium perchlorate anhydrous for analysis EMSURE®		13465-95-7	$Ba(ClO_4)_2$	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	$Bi_5O(OH)_9(NO_3)_4$	100 g	HDPE bottle	1.01878.0100
C	Cadmium acetate dihydrate for analysis EMSURE®		5743-04-4	$(CH_3COO)_2Cd * 2 H_2O$	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	$3 CdSO_4 * 8 H_2O$	100 g	HDPE bottle	1.02027.0100
	Calcium carbonate precipitated for analysis EMSURE® Reag. Ph Eur		471-34-1	$CaCO_3$	250 g	HDPE bottle	1.02066.0250
					1 kg	HDPE bottle	1.02066.1000
					50 kg	Fibre carton	1.02066.9050
	Calcium carbonate precipitated for analysis of silicates EMSURE®		471-34-1	$CaCO_3$	500 g	HDPE bottle	1.02067.0500
	Calcium chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur		10035-04-8	$CaCl_2 * 2 H_2O$	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
	Calcium hydroxide for analysis EMSURE® ACS, Reag. Ph Eur		1305-62-0	$Ca(OH)_2$	500 g	HDPE bottle	1.02047.0500
					1 kg	HDPE bottle	1.02047.1000
					50 kg	Fibre carton	1.02047.9050
	Calcium nitrate tetrahydrate for analysis EMSURE® ACS		13477-34-4	$Ca(NO_3)_2 * 4 H_2O$	500 g	HDPE bottle	1.02121.0500
					5 kg	HDPE bottle	1.02121.5000
					50 kg	Fibre carton	1.02121.9050
	Calcium nitrate tetrahydrate EMPLURA®		13477-34-4	$Ca(NO_3)_2 * 4 H_2O$	5 kg	HDPE bottle	1.02120.5000
	Calcium sulfate dihydrate precipitated for analysis EMSURE®		10101-41-4	$CaSO_4 * 2 H_2O$	500 g	HDPE bottle	1.02161.0500
					25 kg	Fibre carton	1.02161.9025
	Cerium(IV) sulfate tetrahydrate for analysis EMSURE®		10294-42-5	$Ce(SO_4)_2 * 4 H_2O$	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	$Cr(NO_3)_3 * 9 H_2O$	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	$KCr(SO_4)_2 * 12\ H_2O$	250 g	HDPE bottle	1.01036.0250
	Cobalt(II) acetate tetrahydrate for analysis EMSURE® ACS		6147-53-1	$(CH_3COO)_2Co * 4\ H_2O$	100 g	HDPE bottle	1.02529.0100
	Cobalt(II) chloride hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur		7791-13-1	$CoCl_2 * 6\ H_2O$	100 g	HDPE bottle	1.02539.0100
					250 g	HDPE bottle	1.02539.0250
	Cobalt(II) nitrate hexahydrate for analysis (max. 0.001 % Ni) EMSURE® ACS, Reag. Ph Eur		10026-22-9	$Co(NO_3)_2 * 6\ H_2O$	50 g	HDPE bottle	1.02554.0050
					250 g	HDPE bottle	1.02554.0250
	Cobalt(II) nitrate hexahydrate for analysis EMSURE®		10026-22-9	$Co(NO_3)_2 * 6\ H_2O$	100 g	HDPE bottle	1.02536.0100
					250 g	HDPE bottle	1.02536.0250
	Cobalt(II) sulfate heptahydrate for analysis EMSURE®		10026-24-1	$CoSO_4 * 7\ H_2O$	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	$(CH_3COO)_2Cu * H_2O$	250 g	HDPE bottle	1.02711.0250
					25 kg	Fibre carton	1.02711.9025
	Copper(II) acetate monohydrate cryst. EMPLURA®		6046-93-1	$(CH_3COO)_2Cu * H_2O$	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	$CuCl_2 * 2\ H_2O$	250 g	HDPE bottle	1.02733.0250
					1 kg	HDPE bottle	1.02733.1000
	Copper(II) nitrate trihydrate for analysis EMSURE®		10031-43-3	$Cu(NO_3)_2 * 3\ H_2O$	250 g	HDPE bottle	1.02753.0250
					1 kg	HDPE bottle	1.02753.1000
					25 kg	Fibre carton	1.02753.9025
	Copper(II) sulfate anhydrous for analysis EMSURE®		7758-98-7	$CuSO_4$	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	$CuSO_4 * 5\ H_2O$	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	$FeCl_3 * 6\ H_2O$	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	$FeCl_2 * 4\ H_2O$	250 g	HDPE bottle	1.03861.0250
					1 kg	HDPE bottle	1.03861.1000
					50 kg	PE drum	1.03861.9050
	Iron(III) nitrate nonahydrate for analysis EMSURE® ACS, Reag. Ph Eur		7782-61-8	$Fe(NO_3)_3 * 9\ H_2O$	250 g	HDPE bottle	1.03883.0250
					1 kg	HDPE bottle	1.03883.1000
	Iron(III) phosphate for analysis calcined (max. 0.001 % SO_4) EMSURE®		10045-86-0	$FePO_4$	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	$FeSO_4 * 7 H_2O$	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	$(CH_3COO)_2Pb * 3 H_2O$	250 g	HDPE bottle	1.07375.0250
				1 kg	HDPE bottle	1.07375.1000
	Lead(II) carbonate for analysis EMSURE® ACS	598-63-0	$PbCO_3$	250 g	HDPE bottle	1.07381.0250
	Lead(II) hydroxide acetate anhydrous for the analysis of sugar acc. to Horne EMSURE®	51404-69-4	$(CH_3COO)_2Pb * Pb(OH)_2$	1 kg	HDPE bottle	1.07414.1000
				30 kg	Fibre carton	1.07414.9030
	Lead(II) nitrate for analysis EMSURE® ACS, Reag. Ph Eur	10099-74-8	$Pb(NO_3)_2$	100 g	HDPE bottle	1.07398.0100
				1 kg	HDPE bottle	1.07398.1000
	Lithium carbonate for analysis EMSURE® ACS, Reag. Ph Eur	554-13-2	Li_2CO_3	250 g	HDPE bottle	1.05680.0250
	Lithium carbonate EMPLURA®	554-13-2	Li_2CO_3	50 kg	Fibre carton	1.05670.9050
	Lithium chloride for analysis EMSURE® ACS, Reag. Ph Eur	7447-41-8	LiCl	100 g	HDPE bottle	1.05679.0100
				250 g	HDPE bottle	1.05679.0250
				NEW 12 kg	PE bucket	1.05679.9012
	Lithium sulfate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur	10102-25-7	$Li_2SO_4 * H_2O$	250 g	HDPE bottle	1.05694.0250
M	Magnesium acetate tetrahydrate for analysis EMSURE® ACS, Reag. Ph Eur	16674-78-5	$(CH_3COO)_2Mg * 4 H_2O$	250 g	HDPE bottle	1.05819.0250
				1 kg	HDPE bottle	1.05819.1000
				50 kg	Fibre carton	1.05819.9050
	Magnesium chloride hexahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7791-18-6	$MgCl_2 * 6 H_2O$	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 hydroxide carbonate for analysis EMSURE®	12125-28-9	$\sim 4 MgCO_3 * Mg(OH) * 5 H_2O$	250 g	HDPE bottle	1.05827.0250
				25 kg	Fibre carton	1.05827.9025
	Magnesium nitrate hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur	13446-18-9	$Mg(NO_3)_2 * 6 H_2O$	500 g	HDPE bottle	1.05853.0500
				25 kg	PE drum	1.05853.9025
	Magnesium perchlorate hydrate [about 83 % $Mg(ClO_4)_2$] for analysis EMSURE®	64010-42-0	$Mg(ClO_4)_2 * x H_2O$	100 g	Metal can	1.05874.0100
				500 g	Metal can	1.05874.0500
	Magnesium sulfate anhydrous for analysis EMSURE®	7487-88-9	$MgSO_4$	1 kg	Glass bottle	1.06067.1000
				25 kg	PE drum	1.06067.9025
	Magnesium sulfate heptahydrate for analysis EMSURE® ACS, Reag. Ph Eur	10034-99-8	$MgSO_4 * 7 H_2O$	500 g	HDPE bottle	1.05886.0500
				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	$MnCl_2 * 2 H_2O$	100 g	HDPE bottle	1.05934.0100
				1 kg	HDPE bottle	1.05934.1000

EMSURE® EMPLURA®

Salts M–N

	Product		CAS No.	Chemical formula	Content	Packaging	Ord. No.
M	Manganese(II) chloride tetrahydrate for analysis EMSURE® ACS		13446-34-9	$MnCl_2 * 4 H_2O$	100 g	HDPE bottle	1.05927.0100
					1 kg	HDPE bottle	1.05927.1000
	Manganese(II) nitrate tetrahydrate for analysis EMSURE®		20694-39-7	$Mn(NO_3)_2 * 4 H_2O$	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	$MnSO_4 * H_2O$	250 g	HDPE bottle	1.05941.0250
					25 kg	Fibre carton	1.05941.9025
	Manganese(II) sulfate tetrahydrate for analysis EMSURE®		10101-68-5	$MnSO_4 * 4 H_2O$	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	$Hg(CH_3COO)_2$	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	$HgBr_2$	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	$HgCl_2$	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	$HgCl_2$	100 g	HDPE bottle	1.04417.0100
	Mercury(II) iodide red, for analysis EMSURE® ACS, Reag. Ph Eur		7774-29-0	HgI_2	50 g	HDPE bottle	1.04428.0050
					250 g	HDPE bottle	1.04428.0250
	Mercury(II) iodide red EMPLURA®		7774-29-0	HgI_2	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	$Hg(NO_3)_2 * H_2O$	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	$HgSO_4$	50 g	HDPE bottle	1.04480.0050
					250 g	HDPE bottle	1.04480.0250
	Mercury(II) sulfate EMPLURA®		7783-35-9	$HgSO_4$	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	$Hg(SCN)_2$	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	$NiCl_2 * 6 H_2O$	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	$Ni(NO_3)_2 * 6 H_2O$	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	$NiSO_4 * 6 H_2O$	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	$K_2(SbO)_2C_8H_4O_{10} * 3 H_2O$	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	$KBrO_3$	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_2CO_3	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	$KClO_3$	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_2CrO_4	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	$K_2Cr_2O_7$	500 g	Glass bottle	1.04865.0500
Potassium dichromate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7778-50-9	$K_2Cr_2O_7$	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_2PO_4	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_2PO_4	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

EMSURE® EMPLURA®

Salts P

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
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	$K_4[Fe(CN)_6] * 3 H_2O$	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	$K_4[Fe(CN)_6] * 3 H_2O$	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	$KHCO_3$	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	$K_2HO_4P * 3 H_2O$	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	$KHSO_4$	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_3	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_3	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_2	250 g	HDPE bottle	1.05067.0250
di-Potassium oxalate monohydrate for analysis EMSURE® ACS	6487-48-5	$K_2C_2O_4 * H_2O$	250 g	HDPE bottle	1.05073.0250
			1 kg	HDPE bottle	1.05073.1000
Potassium perchlorate for analysis EMSURE® ACS	7778-74-7	$KClO_4$	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	$KMnO_4$	1 kg	Glass bottle	1.05084.1000
Potassium permanganate for analysis EMSURE® ACS, Reag. Ph Eur	7722-64-7	$KMnO_4$	250 g	Glass bottle	1.05082.0250
			1 kg	Glass bottle	1.05082.1000
Potassium permanganate cryst. EMPLURA®	7722-64-7	$KMnO_4$	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	$K_2S_2O_8$	250 g	HDPE bottle	1.05092.0250
Potassium peroxodisulfate for analysis EMSURE®	7727-21-1	$K_2S_2O_8$	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	$C_4H_4KNaO_6 * 4\ H_2O$	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_2SO_4	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

EMSURE® EMPLURA®

Salts S

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
Silver nitrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7761-88-8	$AgNO_3$	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_3COONa	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	$CH_3COONa * 3\ H_2O$	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	$NaNH_4HPO_4 * 4\ H_2O$	1 kg	HDPE bottle	1.06682.1000
Sodium carbonate anhydrous for analysis EMSURE® ACS, ISO, Reag. Ph Eur	497-19-8	Na_2CO_3	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_2CO_3	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	$Na_2CO_3 * 10\ H_2O$	1 kg	HDPE bottle	1.06391.1000
			5 kg	HDPE bottle	1.06391.5000
			25 kg	Fibre carton	1.06391.9025
Sodium chlorate EMPLURA®	7775-09-9	$NaClO_3$	1 kg	HDPE bottle	1.06420.1000
			50 kg	PE drum	1.06420.9050
Sodium chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7647-14-5	NaCl	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
			25 kg	Fibre carton	1.06404.9025
			50 kg	Fibre carton	1.06404.9050
tri-Sodium citrate dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	6132-04-3	$C_6H_5Na_3O_7 * 2\ H_2O$	500 g	HDPE bottle	1.06448.0500
			1 kg	HDPE bottle	1.06448.1000
			5 kg	HDPE bottle	1.06448.5000
			25 kg	Fibre carton	1.06448.9025
Sodium cyanide EMPLURA®	143-33-9	NaCN	1 kg	HDPE bottle	1.06437.1000
Sodium dichromate dihydrate for analysis EMSURE® ACS	7789-12-0	$Na_2Cr_2O_7 * 2\ H_2O$	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	$NaH_2PO_4 * 2\ H_2O$	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	$NaH_2PO_4 * H_2O$	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	$Na_4P_2O_7 * 10\ H_2O$	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	$Na_2S_2O_5$	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	$Na_2S_2O_4$	500 g	Metal can	1.06507.0500
			2.5 kg	Metal can	1.06507.2500
Sodium dithionite EMPLURA®	7775-14-6	$Na_2S_2O_4$	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
			50 kg	Fibre carton	1.06449.9050
Sodium formate for analysis EMSURE® ACS, Reag. Ph Eur	141-53-7	HCOONa	500 g	HDPE bottle	1.06443.0500
			50 kg	Fibre carton	1.06443.9050
Sodium hexanitrocobaltate(III) [sodium cobalt(III)nitrite] for analysis EMSURE® ACS, Reag. Ph Eur	13600-98-1	$Na_3[Co(NO_2)_6]$	25 g	HDPE bottle	1.02521.0025
			100 g	HDPE bottle	1.02521.0100
Sodium hydrogen carbonate for analysis EMSURE® ACS, Reag. Ph Eur	144-55-8	$NaHCO_3$	500 g	HDPE bottle	1.06329.0500
			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
di-Sodium hydrogen phosphate anhydrous (~18 – 80 mesh ASTM) EMSURE®	7558-79-4	Na_2HPO_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	Na_2HPO_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

EMSURE® EMPLURA®

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Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
di-Sodium hydrogen phosphate dihydrate for analysis EMSURE®	10028-24-7	$Na_2HPO_4 * 2 H_2O$	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	$Na_2HPO_4 * 12 H_2O$	500 g	HDPE bottle	1.06579.0500
			1 kg	HDPE bottle	1.06579.1000
			5 kg	HDPE bottle	1.06579.5000
			25 kg	Fibre carton	1.06579.9025
di-Sodium hydrogen phosphate heptahydrate for analysis EMSURE® ACS	7782-85-6	$Na_2HPO_4 * 7 H_2O$	1 kg	HDPE bottle	1.06575.1000
			25 kg	Fibre carton	1.06575.9025
Sodium hydrogen sulfate monohydrate for analysis EMSURE®	10034-88-5	$NaHSO_4 * H_2O$	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	$NaIO_3$	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	$NaIO_4$	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	$Na_2MoO_4 * 2 H_2O$	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	$Na_2MoO_4 * 2 H_2O$	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	$NaNO_3$	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	$NaNO_3$	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	$NaNO_2$	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	$Na_2C_2O_4$	250 g	HDPE bottle	1.06557.0250
			1 kg	HDPE bottle	1.06557.1000
Sodium perchlorate monohydrate for analysis EMSURE®	7791-07-3	$NaClO_4 * H_2O$	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

S

Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
Sodium peroxidisulfate for analysis EMSURE®	7775-27-1	$Na_2S_2O_8$	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	$Na_3PO_4 * 12\ H_2O$	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
			50 kg	Fibre carton	1.06578.9050
tri-Sodium phosphate dodecahydrate for analysis EMSURE®	10101-89-0	$Na_3PO_4 * 12\ H_2O$	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	$(NaPO_3)_n$ / 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_6H_4COONa	250 g	HDPE bottle	1.06601.0250
			1 kg	HDPE bottle	1.06601.1000
			NEW 2.5 kg	HDPE bottle	1.06601.2500
Sodium sulfate anhydrous coarse granules for analysis EMSURE® ACS	7757-82-6	Na_2SO_4	500 g	HDPE bottle	1.06637.0500
			1 kg	HDPE bottle	1.06637.1000
			25 kg	Fibre carton	1.06637.9025
Sodium sulfate anhydrous for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7757-82-6	Na_2SO_4	500 g	HDPE bottle	1.06649.0500
			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_2SO_4	500 g	Glass bottle	1.06639.0500
Sodium sulfate decahydrate for analysis EMSURE® ACS, Reag. Ph Eur	7727-73-3	$Na_2SO_4 * 10\ H_2O$	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_2SO_3	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	$C_4H_4Na_2O_6 * 2\ H_2O$	250 g	HDPE bottle	1.06663.0250
			1 kg	HDPE bottle	1.06663.1000
Sodium thiocyanate EMPLURA®	540-72-7	NaSCN	2.5 kg	HDPE bottle	1.06627.2500
Sodium thiosulfate anhydrous EMPLURA®	7772-98-7	$Na_2O_3S_2$	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	$Na_2O_3S_2 * 5\ H_2O$	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

EMSURE® EMPLURA®

Salts S-Z

	Product	CAS No.	Chemical formula	Content	Packaging	Ord. No.
S	Sodium tungstate dihydrate for analysis EMSURE®	10213-10-2	$Na_2WO_4 * 2 H_2O$	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	$Na_2WO_4 * 2 H_2O$	1 kg	HDPE bottle	1.06672.1000
				25 kg	Fibre carton	1.06672.9025
	Strontium chloride hexahydrate for analysis EMSURE® ACS	10025-70-4	$SrCl_2 * 6 H_2O$	250 g	HDPE bottle	1.07865.0250
				1 kg	HDPE bottle	1.07865.1000
	Strontium nitrate for analysis EMSURE®	10042-76-9	$Sr(NO_3)_2$	250 g	HDPE bottle	1.07872.0250
				25 kg	Fibre carton	1.07872.9025
T	Tin(IV) chloride EMPLURA®	7646-78-8	$SnCl_4$	500 ml	Glass bottle	1.07810.0500
	Tin(II) chloride dihydrate for analysis (max. 0.000001 % Hg) EMSURE®	10025-69-1	$SnCl_2 * 2 H_2O$	100 g	Glass bottle	1.07815.0100
				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	$SnCl_2 * 2 H_2O$	250 g	Glass bottle	1.07814.0250
				2.5 kg	Glass bottle	1.07814.2500
Z	Zinc acetate dihydrate for analysis EMSURE® ACS	5970-45-6	$(CH_3COO)_2Zn * 2 H_2O$	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	$ZnCl_2$	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	ZnI_2	100 g	Glass bottle	1.08828.0100
	Zinc nitrate tetrahydrate for analysis EMSURE®	19154-63-3	$Zn(NO_3)_2 * 4 H_2O$	1 kg	HDPE bottle	1.08833.1000
	Zinc sulfate heptahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7446-20-0	$ZnSO_4 * 7 H_2O$	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.
A	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
							NEW 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
B	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

EMSURE® EMPARTA® EMPLURA®

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
						190 l	Metal drum	1.01849.9190
	tert-Butyl methyl ether EMPLURA®	1634-04-4	≥ 99.0 %	≤ 0.005 %	≤ 0.05 %	2.5 l	Glass bottle	1.01843.2500
						10 l	Metal drum	1.01843.9011
						25 l	Stainless steel drum	1.01843.6025
						190 l	Stainless steel drum	1.01843.6190
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
						NEW 4 l	Glass bottle	1.02445.4000
						10 l	Stainless steel drum	1.02445.6010
						25 l	Stainless steel drum	1.02445.6025
						190 l	Metal drum	1.02445.9190
	Chloroform for analysis EMPARTA® ACS	67-66-3	99.0 - 99.4 %	≤ 0.001 %	≤ 0.01 %	2.5 l	Glass bottle	1.07024.2500
						4 l	Glass bottle	1.07024.4000
	Chloroform EMPLURA®	67-66-3	≥ 99 %	≤ 0.001 %	≤ 0.1 %	1 l	Glass bottle	8.22265.1000
						2.5 l	Glass bottle	8.22265.2500
	Chloroform for analysis (for determinations with dithizone)	67-66-3	99.0 - 99.4 %	< 0.001%	< 0.01 %	1 l	Glass bottle	1.02442.1000
						2.5 l	Glass bottle	1.02442.2500
	Cyclohexane for analysis EMSURE® ACS, ISO, Reag. Ph Eur	110-82-7	≥ 99.5 %	≤ 0.001 %	≤ 0.01 %	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
						NEW 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
	Cylclohexane 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

EMSURE® EMPARTA® EMPLURA®

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
						25 l	Stainless steel drum	1.03053.6025
	N,N-Dimethylformamide EMPARTA®	68-12-2	≥ 99.5 %	≤ 0.001 %	≤ 0.1 %	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
						25 l	Stainless steel drum	1.03034.6025
	N,N-Dimethylformamide EMPLURA®	68-12-2	≥ 99.0 %		≤ 0.1 %	1 l	HDPE bottle	8.22275.1000
						2.5 l	HDPE bottle	8.22275.2500
						25 l	Stainless steel drum	8.22275.6025
	Dimethyl sulfoxide for analysis EMSURE® ACS	67-68-5	≥ 99.9 %	≤ 0.001 %	≤ 0.1 %	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
						4 l	Glass bottle	1.02952.4000
						25 l	Metal drum	1.02952.9025
	Dimethyl sulfoxide EMPLURA®	67-68-5	≥ 99.0 %		≤ 0.2 %	1 l	Glass bottle	1.16743.1000
						25 l	Stainless steel drum	1.16743.6025
	1,4-Dioxane for analysis EMSURE® ACS, ISO	123-91-1	≥ 99.5 %	≤ 0.001 %	≤ 0.05 %	250 ml	Glass bottle	1.09671.0250
						1 l	Glass bottle	1.09671.1000
						2.5 l	Glass bottle	1.09671.2500
						25 l	Stainless steel drum	1.09671.6025
	1,4-Dioxane EMPLURA®	123-91-1	≥ 99.0 %		≤ 0.1 %	1 l	Glass bottle	1.03115.1000
						2.5 l	Glass bottle	1.03115.2500
						25 l	Stainless steel drum	1.03115.6025
						190 l	Metal drum	1.03115.9191
E	Ethanol 96 % EMSURE® Reag. Ph Eur	64-17-5	95.1 - 96.9 %	≤ 25 mg/l		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
					180 l	PE / Metal drum	8.18760.9180
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
Ethanol denatured with about 1 % Methyl ethyl ketone for analysis EMSURE®	64-17-5	≥ 99.5 %	≤ 0.001 %	≤ 0.1 %	1 l	HDPE bottle	1.00974.1011
					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
Ethanolamine for analysis EMSURE®	141-43-5	≥ 99.5 %		≤ 0.2 %	1 l	Glass bottle	1.00845.1000
					2.5 l	Glass bottle	1.00845.2500
Ethyl acetate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	141-78-6	≥ 99.5 %	≤ 0.001 %	≤ 0.05 %	1 l	HDPE bottle	1.09623.1000
					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
NEW	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
						25 l	PE canister	1.04063.9026
NEW	Glycerol (vegetable origin) for analysis EMSURE® ACS, Reag. Ph Eur	56-81-5	≥ 99.5%		≤ 0.5 %	2.5 l	HDPE bottle	1.04057.2511
						10 l	PE canister	1.04057.9011
						25 l	PE canister	1.04057.9026
H	n-Heptane about 85 % EMPLURA®		≥ 85.0 %	≤ 0.005 %		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

EMSURE® EMPARTA® EMPLURA®

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® NEW	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
						25 l	PE / Metal drum	1.06009.9025
						180 l	PE / Metal drum	1.06009.9180
	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 benzine 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 benzine 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 benzine 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 benzine 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 benzine 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.
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
						190 l	Metal drum	1.09728.9190
	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
						190 l	Metal drum	1.07462.9190
T	Tetrachloroethylene EMPLURA®	127-18-4	≥ 99.0 %	≤ 0.001 %	≤ 0.005 %	1 l	Glass bottle	1.00964.1000
						2.5 l	Glass bottle	1.00964.2500
						25 l	Stainless steel drum	1.00964.6025
						190 l	Metal drum	1.00964.9190
	Tetrahydrofuran for analysis EMSURE® ACS, Reag. Ph Eur	109-99-9	≥ 99.8 %	≤ 0.0005 %	≤ 0.03 %	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
						25 l	Stainless steel drum	1.09731.6025
						190 l	Metal drum	1.09731.9190
	Tetrahydrofuran for analysis EMPARTA® ACS	109-99-9	≥ 99.5 %	≤ 0.03 %	≤ 0.05 %	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
						NEW 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

EMSURE® EMPARTA® EMPLURA®

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.emdmillipore.com/safety-products**, or download our Inorganic Reagents catalog on **www.emdmillipore.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.emdmillipore.com/extran**, or download our Inorganic Reagents catalog on **www.emdmillipore.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 – 28 ml 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.emdmillipore.com/chemizorb**, or download our Inorganic Reagents catalog on **www.emdmillipore.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^-	Content	Packaging	Ord. No.
Chemizorb® OH^- absorbent and neutralizer for spilled alkalis, with indicator	1 kg	HDPE bottle	1.01596.1000

Chemizorb® H^+	Content	Packaging	Ord. No.
Chemizorb® H^+ 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			

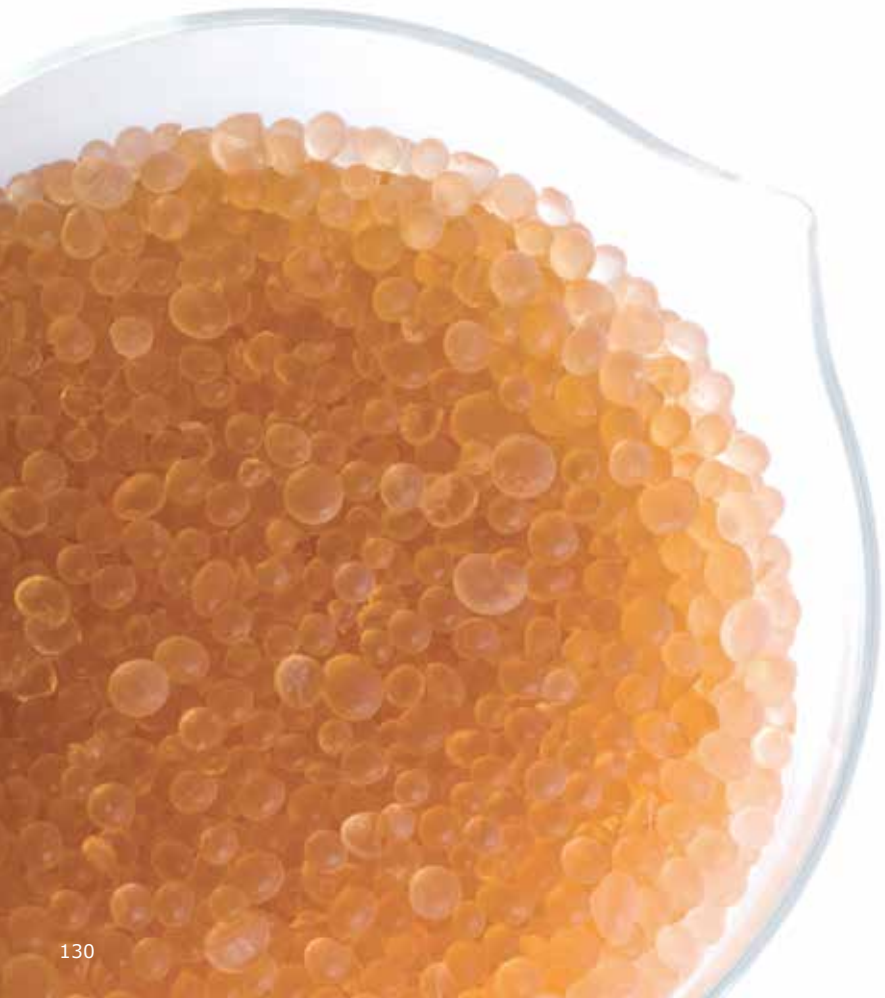
Drying Agents

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.emdmillipore.com/safety-products**, or download our Inorganic Reagents catalog on **www.emdmillipore.com/inorganic-reagents-catalog**.

Drying Agents

Safe, environmentally friendly desiccants

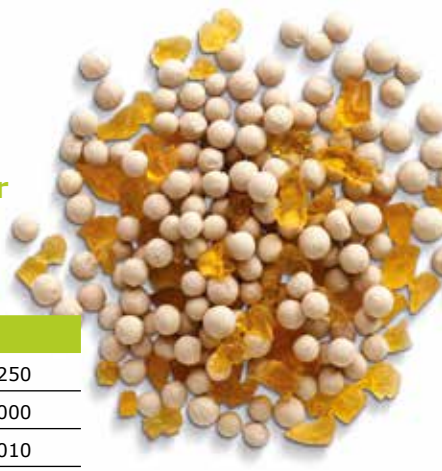
Calcium chloride [$CaCl_2$]	CAS No.	Content	Packaging	Ord. No.
Calcium chloride anhydrous powder Reag. Ph Eur	10043-52-4	500 g	HDPE bottle	1.02378.0500
		2.5 kg	HDPE bottle	1.02378.2500
Calcium chloride anhydrous, granular ~ 1 – 2 mm	10043-52-4	1 kg	HDPE bottle	1.02379.1000
		5 kg	HDPE bottle	1.02379.5000
Calcium chloride anhydrous, granular ~ 2 – 6 mm	10043-52-4	1 kg	HDPE bottle	1.02391.1000
		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_2]	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[1)]	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[1)]	–	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_2O_5]	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_2]	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
Silica gel with moisture indicator (brown gel) desiccant ~ 1 – 4 mm	–	1 kg	HDPE bottle	1.01972.1000
		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_2 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.emdmillipore.com/absorption-filtration**, or download our Inorganic Reagents catalog on **www.emdmillipore.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

MilliporeSigma
290 Concord Road
Billerica, MA 01821
www.emdmillipore.com/empower
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PB8647ENUS 11/2017