







CONTENTS

WHAT MERCK CAN DO FOR YOU	Page	2
Products and Services	Page	3
Global Presence	Page	4
Merck4Pharma	Page	6
PACKAGING CONCEPTS	Page	11
Specific Packaging and Contents	Page	12
Individual and Flexible – the Merck Pre Pack	Page	13
The Double Polyethylene Sack (DPES)	Page	14
QUALITY ASSURANCE AND DOCUMENTATION	Page	17
EMPROVE® - A Strong Brand	Page	18
GMP in Practice	Page	20
References	Page	21
Regulatory Support	Page	22
RESEARCH AND DEVELOPMENT	Page	25
Research – Business Development –		
Applications Laboratory	Page	26
PRODUCTS FOR THE PHARMACEUTICAL INDUSTRY	Page	29
User Notes.	Page	30
Products from A to Z	Page	32



What Merck Can Do for You



Products and Services

for the entire drug development process chain

Does your pharmaceutical company research and produce all the galenic forms? Are you a specialist in this area who shares expertise with others?

Merck's wide offering covers all the process steps in the manufacture of a drug.

On a global scale, we are recognized as the premier reliable partner for the provision of tailor-made production quantities. As well as chemicals, Merck also provides you with the literature you require for documentation and approval purposes; for our EMPROVE® exp product line (for excipients), for example, we provide stability data.

We look forward to working closely with you and are happy to add to our portfolio, should you require it. Just let us know what you need.

Solid, liquid, and semi-solid: the three galenic presentation forms are a traditional part of Merck's offering for the pharmaceutical industry. Our products are focused on the level of quality expected in the market and we also provide all the required documentation. And to support you, Merck customers, in the simplification of your production process, our experts will work with you to the degree that you require to develop process-optimized materials.

With painstaking manufacturing processes and process-oriented analytics, we rise to the challenge of special quality standards, such as those in biopharmaceutical production.

With its materials and services, Merck optimizes the modern drug production process.

Global Presence

Do you manage global supply chain processes and use all the available synergies to do so?

As a global enterprise with 168 companies in 54 countries, Merck offers its customers products and services under a single worldwide name.

"Act local, think global" is the guiding principle of all our activities. If required, our customers receive on-site support from Merck experts. Strongly focused on partnership, these experts work together with you to transform the ideas of today into the successes of tomorrow.

See www.merck.de for a list of addresses and contact persons.



EMD Chemicals

In the USA and Canada, Merck KGaA operates under the name EMD Chemicals Inc., with headquarters in Gibbstown, New Jersey. EMD works to bring the experience, technology and innovation gained over 300 years to customers in the USA and Canada. With 1,100 employees, EMD offers the complete Merck KGaA portfolio of products, services and qualities to the pharmaceutical and biotechnological industries. This portfolio covers everything from drug research to laboratory application to production chemicals.

With its Novagen, Novabiochem and Calbiochem brands, EMD provides a wide range of innovative reagents for agent discovery and agent screening.

The sales staff at EMD are closely acquainted with the specific regulatory and safety issues of the pharmaceutical industry in their own areas and provide support in this regard.





Merck4Pharma

The Internet portal for detailed documentation and information



For over 300 years, Merck has been the leading specialist in high-quality products and services for the chemical and pharmaceutical industries.

This sustained success is due in part to our product portfolio, which we keep continually up to date with market requirements, and our wide, ever-expanding range of attractive services.

A particularly valuable component of these services is the Internet portal for the pharmaceutical industry, Merck4Pharma.

www.merck4pharma.com

Tip: why not add a link to the new portal to your Favorites? By doing so, you will gain easy access to the world's largest range of products and most extensive service portal for drug manufacture.

The new portal is oriented directly towards the pharmaceutical process. Covering everything from research to end-product quality assurance, the portal provides applications, products and – in a separate section – services that guarantee high flexibility and safety.

You can see the high performance of Merck4Pharma and the variety of Merck's offering particularly clearly when you browse along a "pharma path". With just a few clicks, you will arrive at the application area you require, quickly and easily.

For example, if you click...

Galenic R&D - Formulation - Solid dosage form

... the portal displays all the relevant applications. Simply select the application you require and the portal displays all the matching product lists.

Merck offers special benefits to its registered users: they can call up all standard documents directly, and enjoy access to a wider range of information, including country-specific data.

So, register yourself and step into the Merck pharmaceutical production world!





All the benefits at a glance

- Application-oriented product structure locate all the products for your daily use with a single click.
- · Download simply click to access Merck Safety Data Sheets, regulatory affairs documentation, package inserts and applications.
- · Online request use the shopping basket to request non-binding quotes.
- Favorites join the registered area and create Favorites of your frequently used applications, products and search queries.
- Merck4Pharma is available with the same look and feel on the homepages of almost all our companies in their local language.

All you have to do to access important documents and information (such as regulatory certificates and country-specific MSDSs) is – register!

- 1. Click on "Create New Account" underneath the blue bar on the right-hand side of the homepage.
- 2. Click the link "Click here to register".
- 3. Fill in the form. Note that the mandatory fields (marked "*required fields") must be filled in for registration to be successfully completed.
- 4. Now press the "Send / Save Information" button at the end of the form.
- 5. After a short interval, you will receive an e-mail with your access data (user name and password).
- 6. Activate your account by clicking the link contained in this e-mail.

Follow these instructions to find documents:

- 1. Log on to the homepage (enter your user name and password, and click "Go").
- 2. You are now logged on.
- 3. To get to the information you require, enter your search term in the search field, or browse through the applications to get to the products.
- 4. The upper part of the product detail page contains the tab "Related Documents".
- 5. Download your documents here.



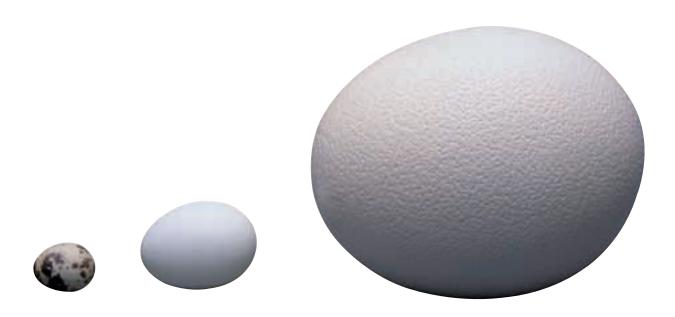


Packaging Concepts

Are your processes as fragile as eggs?

We know!
That's why we deliver
specialized products
in packaging that is
specifically tailored to your processes.

Specific Packaging and Contents We create individual solutions for every use





Do you expect your suppliers' product packaging to meet all safety and quality standards, and to optimally integrate with your work processes?

Packaging today has to fulfill many functions. Absolute cleanliness is a must; dangerous contents have to be protected against; and changing quantities and waste disposal are daily challenges. Also, in many cases, a process-specific variant is required.

The standards of laboratory and production are different, and dosage requirements impose further restrictions.

Merck has the solution to these requirements.

For decades, Merck has researched and worked intensively in the area of packaging development and optimization. Thanks to this commitment, Merck packaging is regarded today as the standard by which others are measured. Merck packaging materials provide the highest possible level of safety and protection – for the product and for the environment.

Individual and flexible – the Merck Pre Pack

The Pre Pack is a packaging variant that is ideal for production processes that recurrently use consistently sized portions of raw materials. The user therefore no longer has to weigh the material, and error sources are thus reduced. What is more, there is no waste whatsoever, and so those time-consuming waste disposal processes are not required at all. These clear benefits enable you to make significant cost savings.

The double polyethylene sack (DPES) for optimized pharmaceutical processes





The double polyethylene sack (DPES) guarantees increased safety in pharmaceutical production. This unique new packaging solution is focused on practical requirements and was specially developed for use in clean rooms.

Its stable interior and exterior sack effectively prevents impurities from getting into the highly sensitive product containment areas. Simply remove the primary packaging layer outside the airlock to the clean room to ensure that any possible contamination of the exterior packaging is kept away from the product.

The fact that all the important product data is printed on both sacks is another clear benefit. Also, the double polyethylene sack is a single-material form of packaging, which means that disposing of it is a simple matter.

Just ask us if you have any questions relating to packaging – we're happy to help.





Quality Assurance and Documentation

A sensitive subject?

You bet it is!

And a complex one, too.

Our specialists don't just have lots of experience

and know-how –

they also have a good sixth sense.

And that's the benefit to you.

EMPROVE®

A strong brand

Is the safety of your products your top priority?

Do your formulations require excipients and agents that are always in line with the latest regulatory requirements?

Merck is the right supplier and partner to help you fulfill these and many other requirements.

Regulatory measures are causing developments on an international level in the pharmaceutical industry. While these measures aim to increase safety and reliability, they also have long-term consequences. The further development of GMP requirements in causing the market for pharmaceutical raw materials to change on an ongoing basis. It is also likely that the excipients group will face regulation in the foreseeable future.

With its EMPROVE® brand, Merck is already setting the standard in excipients. Closely based on the Common Technical Document (CTD) standard, it identifies and documents information and data. The documents are then compiled and completed in the EMPROVE® dossier. Partial dossiers are also available. Updates are provided either when major changes are made, or after 12 months at the latest.

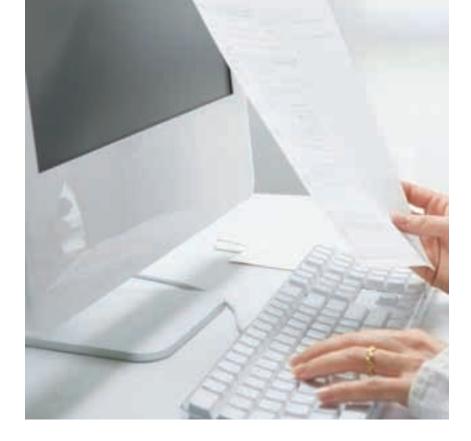
For detailed information, see www.emprove.merck.de.

How does Merck prepare for the future?

The issue of drug safety is constantly gaining importance in the public arena and in the statutory context.

We see this trend from the patient's viewpoint and fully support it. As one of the leading producers of excipients for the pharmaceutical industry, we embrace our responsibilities. EMPROVE® is a step in the right direction, but is by no means the final step. That is why Merck is actively involved in introducing appropriate regulations for excipients.





There are also different requirements for different uses of agents and basic materials in the pharmaceutical process. For this reason, in order to be able to support our customers even more effectively, we have oriented our products in EMPROVE® more strongly around their areas of use.

EMPROVE® specialties:

- · EMPROVE® exp for use as an excipient*
- · EMPROVE® api for use as an active pharmaceutical ingredient*
- · EMPROVE® bio for use in biopharmaceutical production

From the middle of 2008, we will offer our registered customers a special service: the Basic Dossier both in online form and as a download. To ensure that our customers always have the very latest information, the online data will be updated frequently. The EMPROVE® dossiers "Test Specification" and "Stability" are available on request, after completion of a non-disclosure agreement.

With EMPROVE®, Merck provides its customers with a high level of production safety. The quality of our raw materials and our extensive documentation enable you to do your work quickly and cost-effectively.

Make sure that you get the full benefit of everything EMPROVE® has to offer.

^{*} incl. stability data

GMP in Practice

Safety for the patient, trust in the process



Is only the very best quality good enough for you?

International guidelines and recommendations are there to ensure the quality and safety of drugs and of the materials used to produce them. We have listed some of these guidelines here.

At Merck, we have made it our business to ensure that our products fulfill the requirements of every applicable quality standard (as far as makes economic sense). This applies both to our laboratory and production chemicals and to our raw materials and excipients.

Merck has implemented a variety of measures specially designed to ensure our compliance with quality and safety standards in pharmaceutical excipients and raw materials:

- · Merck products that are intended for human consumption are handled in accordance with GMP standards, and Merck pharmacopoeia products fulfill the GMP standards for excipients. Products designated as APIs are manufactured according to the requirements of ICH Q7.
- · Merck suppliers are subject to an internal qualification system.
- · Merck uses an internationally recognized quality management system in production as well as product analysis.
- · Merck is available for customer audits at any time.
- \cdot Merck agrees change control procedures with the customer, if required.
- · Merck provides comprehensive product information and documentation.

References

European Community	EC Guide to Good Manufactureing Practice for Medicinal Products for Human and Veterinary Use
EFCG	Position Paper: Excipients used in Pharmaceutical Manufacturing September 2007
European Union	Commission DIRECTIVE 2004/27/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 amending Directive 2001/83/EC on the Community code relating to medicinal products for human use
FDA	Code of Federal Regulation title 21 part 210 and 211 (April 2008)
FDA	Code of Federal Regulation title 21 part 11 Electronic Records, Electronic Signatures, Final rule (March 2000)
FDA	Guideline on General Principles of Process Validation (Feb. 1993)
FDA/DHSS	Draft Guidance for Industry on Manufacturing, Processing or Holding APIs (Mar. 1998)
ICH	Note for Guidance on Good Manufacturing Practices for Pharmaceutical Ingredients Q7 (August 2001)
ICH	Test procedures and acceptance criteria for new drug substances and new drug products Q6A (Oct. 1999)
ICH	Q3A (R2): Impurities in New Drug Substances (Revised Guideline) (Oct. 2006)
IPEC-PQG	The Joint IPEC-PQG Good Distribution Practices Guide for Pharmaceutical Excipients (2006)
IPEC-PQG	The Joint IPEC-PQG Good Manufacturing Practices Guide for Pharmaceutical Excipients (2006)
ISO	Quality Management Systems-Requirements, ISO 9001:2000 (Dec. 2000)
PIC/S	PIC/S GMP GUIDE (May 2007)
WHO	Good Manufacturing Practices for Pharmaceutical Products. In: WHO Expert Committee on Specifications for Pharmaceutical Preparations 37th Report, Geneva, World Health Organisation, 2003, Annex 4, WHO Technical Report Series No. 908)
WHO	Good Manufacturing Practices for Pharmaceutical Products. In: WHO Expert Committee on Specifications for Pharmaceutical Preparations 38th Report, Geneva, World Health Organisation, 2004, Annex 2, WHO Technical Report Series No. 917
WHO	GMP Supplementary Guidelines for the Manufacture of Pharmaceutical Excipients; WHO Technical Report Series, No. 885, (1999)
WHO	Good Trade and Distribution Practises for Pharmaceutical Starting Materials, World Health Organization, WHO Technical Report Series, No. 917, 2003

Regulatory Support



Do you adhere to the existing guidelines and laws in the manufacture of your drugs and want optimal support from your suppliers?

Do you expect fast and competent answers to your questions?

You can find most of the information you require on the Merck4Pharma Internet portal. Any answers not on the portal are provided by a team of our staff who specialize in the areas of quality and approval.

Merck employees are active in both national and international bodies. This enables us to ensure that the expertise we pass on to you is always up to date. And by engaging in close dialog with our customers, we ourselves are always in an ongoing process of learning. And of course, we always make the findings from this dialog available to you.

Specialists handle current topics concerning the chemical purity of our products, changes in pharmacopeias, and sensitive topics such as BSE* and GMO**. The documents that result from this work can be accessed on the Internet at www.merck4pharma.com.

^{*} BSE = bovine spongiform encephalopathy

^{**} GMO = genetically modified organism





Research and Development

Can we take your product development further?

Of course!
You'll be amazed
at how much synergy is built
from a trusting,
partnership-based relationship.

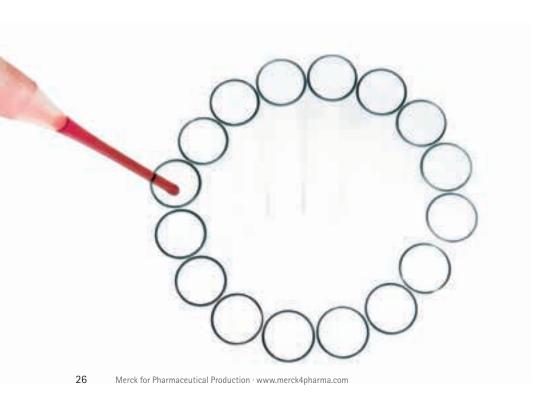
Research – Business Development – Applications Laboratory

As a pharmaceutical company that is engaged in both manufacture and research, Merck is familiar both with the first steps on the research road and with the significance and responsibility of a reliable supplier. So you can rely on Merck! As your trusted partner, we are happy to accompany you every step of the way and to use our competence to support you right from the start of your new product concept.

Merck supports you with the implementation of new solutions and assists you in making new projects profitable in the long term. Working in close cooperation, our specialists and your staff look for materials that can be used in accordance with the process or for materials that can turn a new idea into a market-ready product.

The staff of the Merck applications laboratory are a valuable enhancement to our partnership offering. They are responsible for the functionality of the products and will liaise with you regarding any change processes that may be required. This work is done together with your experts, at your premises if you wish. Workshops are also available and are a good way to complete the information exchange process.

For extensive information on Merck's main activities in research and development, see the heading "Innovation" at www.merck-chemicals.com.







Products for the Pharmaceutical Industry

Interested in how we combine tradition and innovation?

It's easy!

With the right attitude

and a good dose

of communication,

combining the tried-and-trusted

with the new is child's play.

Some User Notes

needed on the productlist

The following is an alphabetical list of our raw materials and excipients for pharmaceutical production. Additional products, replacement parts and our entire range for laboratory applications are available in the Merck catalog or on the Internet at www.merck4pharma.com.

IUPAC nomenclature

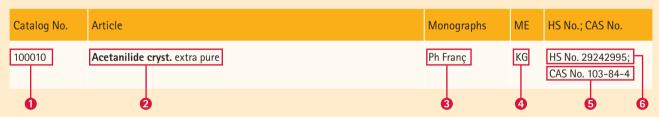
- -The designations used in the catalog are based on the IUPAC system of nomenclature. Typical examples are ether instead of aether and 1-Butanethiol instead of Butyl mercaptan.
- -However, common colloquial names are still used, as is expressly recommended in some cases in the IUPAC rules. Examples of this are succinic acid instead of butanedioic acid and furfural instead of furan-2-carbaldehyde.

- -In the case of esters, the alcohol comes before the acid; for example, methyl benzoate.
- -Substituents are ordered alphabetically in designations; for example, 1-bromo-3-chloro-2-methylpropan.

Greek and Latin numerals

- Numerals such as bi, di, tri and tetra, which specify the number of substituents, are also included in alphabetical order; for example, 1,1,1-trichloro-2-methyl-2propanol comes under T. However, in inorganic compounds, the numerals do not influence the order; for example, dinatriumhydrogenphosphate comes under N.
- -The numeral mono is used only for polyacids; for example, monoethyl fumarate but chlorobenzine.

Schema of Alphabetical Listings



- 1 Catalog number
- 2 Material designation and usage notes
- 3 Monographs
- 4 Unit of quantity

5 Chemical Abstracts Service (CAS) number

For greater usability, we have noted the CAS numbers where applicable.

6 HS number

HS refers to the Harmonized System for designating and codifying goods in international trade (customs numbers).

Example: 1234 56 789

Digits 1 - 6 = HS international

Digits 7 - 8 = EU-specific

Detailed descriptions of our products, including danger warnings, are available on our Web portal at www.merck4pharma.com and in our Chemicals and Reagents 2008-2010 catalog.

Chemical prefixes

- Prefixes such as asym, cis, meta, n, ortho, para, sek, tert, trans and vic do not influence the order; for example, tert-Butylamine comes under B and orthophosphoric acid comes under P.
- However, iso compounds come under I; for example, isoamyl alcohol and isooctane both come under I.

Cations, anions

- In accordance with IUPAC, the cation usually comes first in the designation; for example, sodium chloride, sodium ethylate.
- The anion can come first if the designation is very common or if the cation is of lesser importance in the compound; for example, Methyl-4-hydroxybenzoate sodium salt.

Position isomers

 It does not make sense to alphabetically organize the atomic symbols that designate position isomers; for example, N,N-Dimethylformamide comes under D.

Chiral compounds

- It is recommended that these be designated in accordance with the modern R/S nomenclature. R and S have no influence on the alphabetical order; for example, (R)-(-)-Hydroxymethyl-g-butyrolactone comes under H.
- The conventional D/L nomenclature is retained in the notes and is consistent with the IUPAC rules, with the exception of amino acids, carbohydrates and colloquial designations. The direction of rotation is always indicated by (+) and (-); for example, D(+)-Biotin.

Compounds containing distilled water

 These are designated by a Greek numeral in combination with the word "hydrate"; for example, Cadmium nitrate— Tetrahydrate.



The products are inspected for compliance with the relevant declaration for the specified purpose and are marked as such. It is the customer's responsibility to check that a product is suitable for a non-specified use.

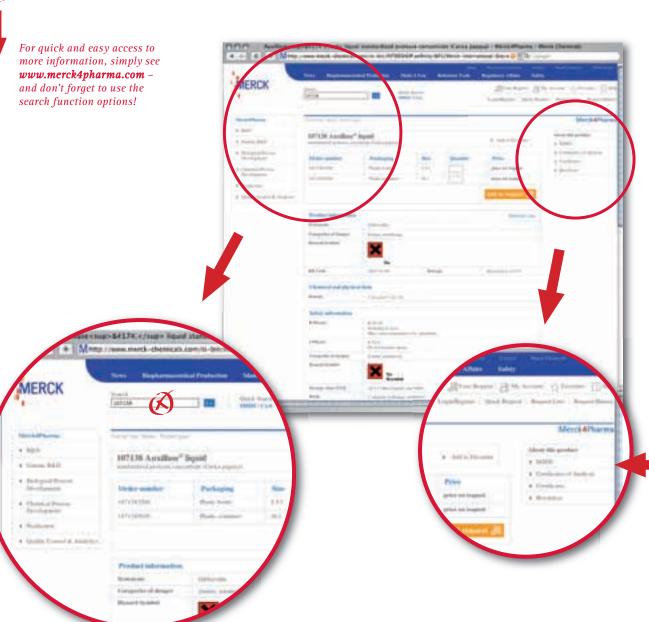
The purity of the agents and excipients for the pharmaceutical industry is analyzed in accordance with the latest editions of the declared pharmacopoeias.

Catalog No.	Article	Monographs	ME	HS No.; CAS No.
100010	Acetanilide cryst. extra pure	Ph Franç	KG	HS No. 29242995; CAS No. 103-84-4
100056	Acetic acid (glacial) 100 % suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, USP, E 260	L	HS No. 29152100; CAS No. 64-19-7
100058	Acetic acid 96 % suitable for use as excipient EMPROVE® exp		L	HS No. 29152100
137000	Acetic acid (glacial) 100 % suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, JP, USP, ACS	L	HS No. 29152100; CAS No. 64-19-7
137035	Acetic acid 1 mol/l suitable for biopharmaceutical production EMPROVE® bio		L	HS No. 29152100
480745	Acetic acid 30 % extra pure	Ph Helv	KG	HS No. 29152100;
137047	Acetic acid 30% suitable for biopharmaceutical production EMPROVE® bio	Ph Helv	L	HS No. 29152100
137034	Acetic acid 60 % suitable for biopharmaceutical production EMPROVE® bio		L	HS No. 29152100
100013	Acetone suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	L	HS No. 29141100; CAS No. 67-64-1
112488	N-Acetyl-DL-tryptophan suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP	KG	HS No. 29339990; CAS No. 87-32-1
100085	Acetylsalicylic acid suitable for use as active pharmaceutical ingredient EMPROVE® api	BP, Ph Eur, USP	KG	HS No. 29182200; CAS No. 50-78-2
100090	Adipic acid extra pure	Ph Eur, NF, FCC, E 355	KG	HS No. 29171210; CAS No. 124-04-9
101615	Agar extra pure, fine powder	Ph Eur, BP	G	HS No. 13023100; CAS No. 9002-18-0
101700	L-Alanine suitable for use as excipient EMPROVE® exp	Ph Eur, USP	G, KG	HS No. 29224995; CAS No. 56-41-7
112018	Albumin fraction V (from bovine serum) for biochemistry		ST	HS No. 35029070; CAS No. 90604-29-8
101084	Aluminium chloride hexahydrate extra pure	Ph Eur, BP, USP	KG	HS No. 28273200; CAS No. 7784-13-6
101061	Aluminium oxide 150 basic (0,063-0,200 mm)		KG	HS No. 28182000
101067	Aluminium oxide 60 active basic (activity I) particle size 0.063–0.200 mm (70–230 mesh ASTM) for column chromatography		KG	HS No. 28182000
101076	Aluminium oxide 90 active basic (0.063–0.200 mm) (activity stage I) for column chromatography		KG	HS No. 28182000
101077	Aluminium oxide 90 active neutral (activity stage I) for column chromatography 0,063-0,200 mm (70 - 230 mesh ASTM)		KG	HS No. 28182000; CAS No. 1344-28-1

Catalog No.	Article	Monographs	ME	HS No.; CAS No.
101078	Aluminium oxide 90 active acidic (0.063-0.200 mm) (activity stage I), for column chromatography		KG	HS No. 28182000; CAS No. 1344-28-1
101097	Aluminium oxide 90 standardized for column chromotographic adsorption analysis acc. to Brockmann		KG	HS No. 28182000; CAS No. 1344-28-1
101042	Aluminium potassium sulfate dodecahydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 28333000; CAS No. 7784-24-9
101102	Aluminium sulfate-18-hydrate extra pure	Ph Eur, BP	KG	HS No. 28332200; CAS No. 7784-31-8
100102	4-Aminobenzoic acid suitable for use as excipient EMPROVE® exp	USP	KG	HS No. 29224995; CAS No. 150-13-0
105422	Ammonia solution 25% extra pure	Ph Eur, BP		HS No. 28142000
101136	Ammonium carbonate extra pure	Ph Franç, E 503	KG	HS No. 28369917; CAS No. 10361-29-2
101142	Ammonium chloride suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 28271000; CAS No. 12125-02-9
100924	Ammonium chloride extra pure	Ph Eur, BP, USP	KG	HS No. 28271000; CAS No. 12125-02-9
101141	Ammonium chloride pure		KG	HS No. 28271000; CAS No. 12125-02-9
101124	Ammonium dihydrogen phosphate cryst. extra pure		KG	HS No. 31051000; CAS No. 7722-76-1
101131	Ammonium hydrogen carbonate extra pure	Ph Eur, BP, E 503	KG	HS No. 28369917; CAS No. 1066-33-7
101155	di- Ammonium hydrogen citrate suitable for use as excipient EMPROVE® exp		KG	HS No. 29181500; CAS No. 3012-65-5
101206	di- Ammonium hydrogen phosphate suitable for use as excipient EMPROVE® exp	NF	KG	HS No. 31051000; CAS No. 7783-28-0
103762	Ammonium iron(III) citrate about 18 % Fe	DAC	KG	HS No. 29181500; CAS No. 1185-57-5
103761	Ammonium iron(III) citrate approx. 28% Fe	DAC	KG	HS No. 29181500; CAS No. 1185-57-5
101816	Ammonium sulfate extra pure	ACS, NF	KG	HS No. 31022100; CAS No. 7783-20-2
101817	Ammonium sulfate fine powder with lubricant (0,5% Sipernat S22)		KG	HS No. 31022100
101587	L-Arginine suitable for use as excipient EMPROVE® exp	Ph Eur, USP	G, KG	HS No. 29252900; CAS No. 74-79-3

A	Catalog No.	Article	Monographs	ME	HS No.; CAS No.
	101544	L-Arginine monohydrochloride suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	G, KG	HS No. 29252900; CAS No. 1119-34-2
	500090	L(+) Ascorbyl palmitate (6-palmitoyl-L-ascorbic acid) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, FCC, E 304	KG	HS No. 29362700; CAS No. 137-66-6
	101565	L-Asparagine monohydrate suitable for use as excipient EMPROVE® exp	Ph Eur	G, KG	HS No. 29241900; CAS No. 5794-13-8
	100129	L-Aspartic acid extra pure	Ph Eur, BP, USP	G, KG	HS No. 29224995; CAS No. 56-84-8
A	107138	Auxillase® liquid standardized protease concentrate (Carica papaya)		L	HS No. 35079090

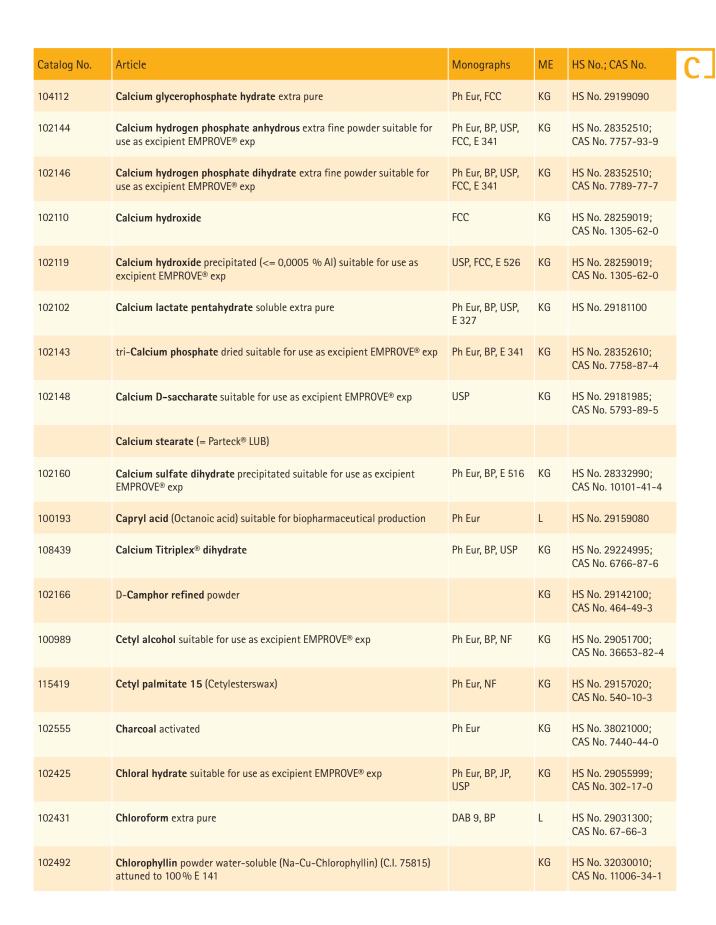




Catalog No.	Article	Monographs	ME	HS No.; CAS No.
101750	Barium sulfate extra pure for X-ray diagnosis	Ph Eur, BP, USP	KG	HS No. 28332700; CAS No. 7727-43-7
817032	Benzalkonium chloride	Ph Eur	KG	HS No. 34021200
817046	Benzalkonium chloride (50 % aqueous solution)	Ph Eur	L	HS No. 34021200
100130	Benzoic acid powder suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, E 210	KG	HS No. 29163100; CAS No. 65-85-0
101681	Benzonase® ELISA kit II for the immunological detection of Benzonase® suitable for biopharmaceutical production EMPROVE® bio		ST	HS No. 30021091
101695	Benzonase® purity grade I (>99 %) suitable for biopharmaceutical production EMPROVE® bio		ST	HS No. 35079090
101697	Benzonase® purity grade I (>99%) for biotechnology EMPROVE® bio		ST	HS No. 35079090
101654	Benzonase® purity grade II (>90%) for biotechnology		ST	HS No. 35079090
101656	Benzonase® purity grade II (>90%) for biotechnology		ST	HS No. 35079090
100981	Benzyl alcohol suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	L	HS No. 29062100; CAS No. 100-51-6
100987	Benzyl alcohol special grade (benzaldehyde <= 0.05%) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	L	HS No. 29062100; CAS No. 100-51-6
137043	Benzyl alcohol suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, NF	L	HS No. 29062100; CAS No. 100-51-6
101806	Benzyl benzoate	Ph Eur, BP, USP	L	HS No. 29163100; CAS No. 120-51-4
106752	Benzyl nicotinate suitable for use as active pharmaceutical ingredient EMPROVE® api	DAB	L	HS No. 29333999; CAS No. 94-44-0
105006	Bole white powder low bacterial content, for internal use, suitable for use as excipient EMPROVE® exp	Ph Eur, BP	KG	HS No. 25070020; CAS No. 1332-58-7
100160	Boric acid cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	KG	HS No. 28100090; CAS No. 10043-35-3
100164	Boric acid cryst. suitable for use as active pharmaceutical ingredient EMPROVE® api	Ph Eur, BP, NF	KG	HS No. 28100090; CAS No. 10043-35-3
100162	Boric acid powder suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	KG	HS No. 28100090; CAS No. 10043-35-3
100988	1-Butanol extra pure	NF	L	HS No. 29051300; CAS No. 71-36-3
817023	Butylhydroxyanisole	Ph Eur, NF, E 320	KG	HS No. 29095090; CAS No. 121-00-6
817074	Butylhydroxytoluene	Ph Eur, NF, E 321	KG	HS No. 29071990; CAS No. 128-37-0

Catalog No.	Article	Monographs	ME	HS No.; CAS No.
102584	Caffeine suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 29393000; CAS No. 58-08-2
102052	Calcium acetate hydrate extra pure	DAC, FCC	KG	HS No. 29152900; CAS No. 114460-21-8
112120	Calcium carbonate precipitated (<= 0,0001 % Al) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, FCC, E 170	KG	HS No. 28365000; CAS No. 471-34-1
102064	Calcium carbonate precipitated (<= 0,002 % Fe) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, FCC	KG	HS No. 28365000; CAS No. 471-34-1
102069	Calcium carbonate precipitated suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, E 170, FCC	KG	HS No. 28365000; CAS No. 471-34-1
142000	Calcium chloride dihydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, USP, FCC, E 509	KG	HS No. 28272000; CAS No. 10035-04-8
137001	Calcium chloride dihydrate suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, JP, USP	KG	HS No. 28272000; CAS No. 10035-04-8
102092	tri- Calcium dicitrate tetrahydrate suitable for use as excipient EMPROVE® exp	DAC, USP, FCC, E 333	KG	HS No. 29181500; CAS No. 5785-44-4
CA-FOLINATE FA EPROVA	Calciumfolinate amorphous (Pharma Europa)			CAS No. 1492-18-8
CA-FOLINATE FK EPROVA	Calciumfolinate crystalline (Pharma Europa)			CAS No. 1492-18-8
102094	Calcium gluconate monohydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, FCC, E 578	KG	HS No. 29181600; CAS No. 66905-23-5
102101	Calcium gluconate monohydrate low in endotoxins suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, FCC, E 578	KG	HS No. 29181600; CAS No. 66905-23-5





Catalog No.	Article	Monographs	ME	HS No.; CAS No.
103672	Cholesterol from wool fat, extra pure, powdered	Ph Eur, BP, NF, JP	KG	HS No. 29061310; CAS No. 57-88-5
500117	Choline chloride extra pure	DAB 1996, FCC	KG	HS No. 29231000; CAS No. 67-48-1
500115	Choline hydrogen tartrate	DAB 1996, FCC	KG	HS No. 29231000; CAS No. 87-67-2
100247	Citric acid anhydrous fine-granular suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, FCC , USP, E 330	KG	HS No. 29181400; CAS No. 77-92-9
100241	Citric acid anhydrous powder suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, FCC , USP, E 330	KG	HS No. 29181400; CAS No. 77-92-9
137002	Citric acid anhydrous powder suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, USP, ACS	KG	HS No. 29181400; CAS No. 77-92-9
100242	Citric acid monohydrate cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, FCC , USP, E 330	KG	HS No. 29181400; CAS No. 5949-29-1
137003	Citric acid monohydrate cryst. suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, USP, ACS	KG	HS No. 29181400; CAS No. 5949-29-1
100243	Citric acid monohydrate powder suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, FCC , USP, E 330	KG	HS No. 29181400; CAS No. 5949-29-1
500112	Cocarboxylase chloride (thiamine diphosphoric acid ester chloride) suitable for use as active pharmaceutical ingredient EMPROVE® api		KG	HS No. 29362200; CAS No. 154-87-0
500111	Cocarboxylase tetrahydrate (thiamine diphosphoric acid ester tetrahydrate) suitable for use as active pharmaceutical ingredient EMPROVE® api		KG	HS No. 29362200; CAS No. 68684-55-9
102644	Collodion 4%	DAB 6	L	HS No. 39122011
102792	Copper(II) sulfate anhydrous suitable for use as excipient EMPROVE® exp	Ph Eur, BP	KG	HS No. 28332500; CAS No. 7758-98-7
102787	Copper(II) sulfate pentahydrate cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 28332500; CAS No. 7758-99-8
102788	Copper(II) sulfate pentahydrate powder suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 28332500; CAS No. 7758-99-8
102735	L-Cysteine hydrochloride monohydrate suitable for use as excipient EMPROVE® exp	Ph Eur, USP	G, KG	HS No. 29309016; CAS No. 7048-04-6
102737	L-Cystine suitable for use as excipient EMPROVE® exp	Ph Eur	G, KG	HS No. 29309013; CAS No. 56-89-3
102836	L-Cystine extra pure	FCC	KG	HS No. 29309013; CAS No. 56-89-3

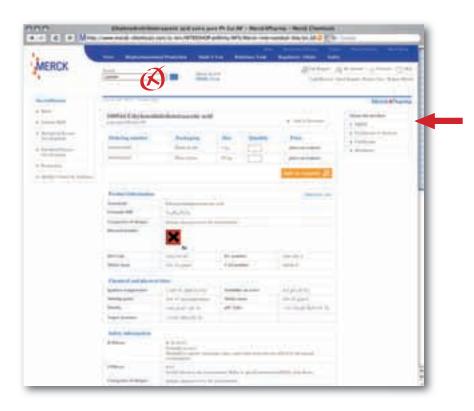
Catalog No.	Article	Monographs	ME	HS No.; CAS No.	D.
817067	Dibutyl sebacate	NF	L	HS No. 29171390; CAS No. 109-43-3	
106049	Dichloromethane extra pure	Ph Eur, BP, NF	L	HS No. 29031200; CAS No. 75-09-2	
100926	Diethyl ether suitable for use as excipient EMPROVE® exp	Ph Eur, BP	L	HS No. 29091100; CAS No. 60-29-7	
817033	Diethyltoluamide	USP	L, KG	HS No. 29242995; CAS No. 134-62-3	
110845	Dihydroxyacetone pure, not for cosmetic purposes		KG	HS No. 29144090; CAS No. 96-26-4	



Catalog No.	Article	Monographs	ME	HS No.; CAS No.
101986	Ethanol absolute suitable for preparative chromatography EMPROVE® bio	Ph Eur, BP, USP	L	HS No. 22071000; CAS No. 64-17-5
100971	Ethanol 96% suitable for use as excipient EMPROVE® exp	Ph Eur, BP	L	HS No. 22071000; CAS No. 64-17-5
100967	Ethanol 96% extra pure suitable for use as excipient EMPROVE® exp	Ph Eur, JP, USP	L	HS No. 22071000; CAS No. 64-17-5
100986	Ethanol absolute suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	L	HS No. 22071000; CAS No. 64-17-5
100844	Ethanolamine suitable for use as excipient EMPROVE® exp	BP, NF	L	HS No. 29221100; CAS No. 141-43-5
137044	Ethanolamine suitable for biopharmaceutical production EMPROVE® bio	BP, NF	L	HS No. 29221100; CAS No. 141-43-5
100877	Ethyl 4-aminobenzoate (benzocaine) extra pure suitable for use as active pharmaceutical ingredient EMPROVE® api	Ph Eur, BP, USP	KG	HS No. 29224995; CAS No. 94-09-7
100887	Ethyl 4-hydroxybenzoate	Ph Eur, BP, NF, E 214	KG	HS No. 29182930; CAS No. 120-47-8
100886	Ethyl 4-hydroxybenzoate sodium salt	E 215	KG	HS No. 29182930; CAS No. 35285-68-8
100864	Ethyl acetate extra pure	Ph Eur, BP, NF	L	HS No. 29153100; CAS No. 141-78-6
100944	Ethylenedinitrilotetraacetic acid extra pure	Ph Eur, NF	KG	HS No. 29224995; CAS No. 60-00-4



For quick and easy access to more information, simply see www.merck4pharma.com – and don't forget to use the search function options!



Catalog No.	Article	Monographs	ME	HS No.; CAS No.	
103992	Fluorescein sodium (C.I. 45350) extra pure		KG	HS No. 32041200; CAS No. 518-47-8	
114737	ForMaxx® Calcium carbonate 70 (calcium carbonate-sorbitol)		KG	HS No. 21069092	
100263	Formic acid 98–100 % suitable for use as excipient EMPROVE® exp	DAC	L	HS No. 29151100; CAS No. 64-18-6	
110317	Fractogel® EMD BioSEC (S) for size exclusion chromatography (SEC), suspension in 20% ethanol and 150 mM NaCl (20–40 μ m)		L	HS No. 39069090	
110338	Fractogel® EMD Chelate (M) for metal affinity chromatography (IMAC), suspension in 20% ethanol and 150 mM NaCl 40-90 μm		L	HS No. 39140000	
116886	Fractogel® EMD COO $^-$ (M) weak cation exchanger, suspension in 20 $\%$ ethanol and 150 mM NaCl (40–90 $\mu m)$		L	HS No. 39140000	
116891	Fractogel® EMD COO ⁻ (S) weak cation exchanger, suspension in 20 % ethanol and 150 mM NaCl (20-40 μm)		L	HS No. 39140000	
116883	Fractogel® EMD DEAE (M) weak anion exchanger, suspension in 20% ethanol and 150 mm NaCl (40-90 μm)		L	HS No. 39140000	
116888	Fractogel® EMD DEAE (S) weak anion exchanger, suspension in 20% ethanol and 150 mM NaCl (20-40 μm)		L	HS No. 39140000	
116884	Fractogel® EMD DMAE (M) weak anion exchanger, suspension in 20 % ethanol and 150 mM NaCl (40-90 μ m)		L	HS No. 39140000	
116889	Fractogel® EMD DMAE (S) weak anion exchanger, suspension in 20% ethanol and 150 mM NaCl (20-40 μm)		L	HS No. 39140000	
116961	Fractogel® EMD Epoxy (M) (40-90 μ m) activated resin for immobilization		G	HS No. 39069090	
116197	Fractogel® EMD Phenyl (S) for hydrophobic interaction chromatography, suspension in 20 % ethanol and 150 mM NaCl (20–40 μ m)		L	HS No. 39140000	
110085	Fractogel® EMD Propyl (S) for hydrophobic interaction chromatography, suspension in 20 % ethanol and 150 mM NaCl (20-40 μ m)		L	HS No. 39140000	
114894	Fractogel® EMD SE Hicap (M) strong cation exchanger, suspension in 20% ethanol and 150 mM NaCl (40-90 μm)		L	HS No. 39140000	
116882	Fractogel® EMD SO $_3^-$ (M) strong cation exchanger, suspension in 20% ethanol and 150 mM NaCl (40–90 μ m)		L	HS No. 39140000	
116890	Fractogel® EMD SO $_3^-$ (S) strong cation exchanger, suspension in 20% ethanol and 150 mM NaCl (20-40 μ m)		L	HS No. 39140000	
116473	Fractogel® EMD TA (S) for thiophilic adsorption chromatography, suspension in 20 % ethanol and 150 mM NaCl (20–40 μ m)		L	HS No. 39140000	
116881	Fractogel® EMD TMAE (M) strong anion exchanger, suspension in 20% ethanol and 150 mM NaCl (40-90 μm)		L	HS No. 39140000	

F	Catalog No.	Article	Monographs	ME	HS No.; CAS No.
	116887	Fractogel® EMD TMAE (S) strong anion exchanger, suspension in 20 % ethanol and 150 mM NaCl (20-40 μ m)		L	HS No. 39140000
	110316	Fractogel® EMD TMAE Hicap (M) strong anion exchanger, suspension in 20 % ethanol and 150 mM NaCl (40–90 μ m)		L	HS No. 39140000
	116885	Fractogel® EMD TMAE Medcap (M) strong anion exchanger, suspension in 20 % ethanol and 150 mM NaCl (40-90 μ m)		L	HS No. 39140000
	105321	D(-)-Fructose extra pure	Ph Eur, BP, USP, FCC	KG	HS No. 17025000; CAS No. 57-48-7
	817073	Fumaric acid	NF	KG	HS No. 29171990; CAS No. 110-17-8



G	

Catalog No.	Article	Monographs	ME	HS No.; CAS No.
104061	D(+)-Galactose suitable for use as excipient EMPROVE® exp	Ph Eur, BP	KG	HS No. 29400000; CAS No. 59-23-4
104072	Gelatin (sheets) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	KG	HS No. 35030010; CAS No. 9000-70-8
104078	Gelatin powder suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	KG	HS No. 35030010; CAS No. 9000-70-8
108337	D(+)-Glucose anhydrous for biochemistry Reag.	Ph Eur	KG	HS No. 17023050; CAS No. 50-99-7
137048	D(+)-Glucose anhydrous suitable for biopharmaceutical production	Ph Eur, BP, ACS	KG	HS No. 17023050; CAS No. 50-99-7
108346	D(+)-Glucose monohydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 17023051; CAS No. 14431-43-7
101791	L-Glutamic acid suitable for use as excipient EMPROVE® exp	Ph Eur	G, KG	HS No. 29224200; CAS No. 56-86-0
100286	L-Glutamine suitable for use as excipient EMPROVE® exp	DAB, USP	G, KG	HS No. 29241900; CAS No. 56-85-9
104090	Glutathione suitable for biopharmaceutical production EMPROVE® bio	Ph Eur	ST	HS No. 29309085; CAS No. 70-18-8
104091	Glycerol about 85 % extra pure	Ph Eur, BP	L	HS No. 29054500
137027	Glycerol abt. 85 % (synthetic) suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP	L	HS No. 29054500
137028	Glycerol anhydrous (vegetable) suitable for biopharmaceutical production	Ph Eur, BP, JP, USP, ACS	L	HS No. 29054500; CAS No. 56-81-5
104093	Glycerol anhydrous pure	Ph Eur, BP, USP, E 422, JP	L	HS No. 29054500; CAS No. 56-81-5
107753	Glycerol trinitrate solution 1 %		ST	HS No. 30049099
500190	Glycine cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 29224910; CAS No. 56-40-6
137029	Glycine cryst. suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, USP	KG	HS No. 29224910; CAS No. 56-40-6
104212	Guaiacol extra pure	Ph Franç X	ML, L	HS No. 29095010; CAS No. 90-05-1
104219	Guanidinium chloride for biochemistry		ST	HS No. 29252900; CAS No. 50-01-1
104228	Gum arabic spray-dried suitable for use as excipient EMPROVE® exp	Ph Eur, BP	KG	HS No. 13012000; CAS No. 9000-01-5
108405	Gum tragacanth with low bacterial count fine powder		G, KG	HS No. 13019000; CAS No. 9000-65-1

_ Catalog N	Article	Monographs	ME	HS No.; CAS No.
104352	L-Histidine suitable for use as excipient EMPROVE® exp	Ph Eur, USP	G, KG	HS No. 29332990; CAS No. 71-00-1
104354	L- Histidine monohydrochloride monohydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP	G	HS No. 29332990; CAS No. 5934-29-2
480592	Hydrochloric acid 10%	Ph Eur, NF	L	HS No. 28061000;
100312	Hydrochloric acid 25 % suitable for use as excipient EMPROVE® exp	Ph Helv	L	HS No. 28061000
100314	Hydrochloric acid fuming 37 % suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, NF	L	HS No. 28061000
137007	Hydrochloric acid fuming 37 % suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, JP, NF, ACS	L	HS No. 28061000
110165	Hydrochloric acid low in endotoxins $c(HCI) = 1 \text{ mol/I (1N)}$		L	HS No. 28061000
110164	Hydrochloric acid low in endotoxins c(HCL) = 6 mol/l (6N)		L	HS No. 28061000
108597	Hydrogen peroxide 30 % medical, extra pure, stabilized suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	L	HS No. 28470000
108600	Hydrogen peroxide 35% suitable for use as excipient EMPROVE® exp	Ph Nord	L	HS No. 28470000
110110	2-[4-(2- Hydroxyethyl)-1-piperazinyl]-ethanesulfonic acid Buffer substance HEPES		KG	HS No. 29335995; CAS No. 7365-45-9



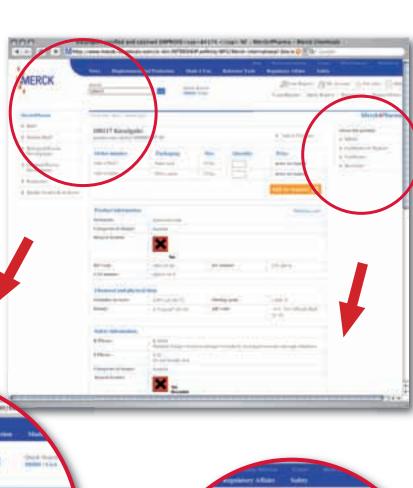
Catalog No.	Article	Monographs	ME	HS No.; CAS No.
104716	Imidazole buffer substance	ACS	ST	HS No. 29332990; CAS No. 288-32-4
104731	myo- InositoI	DAC, FCC	KG	HS No. 29061390; CAS No. 87-89-8
104760	lodine purified by sublimation	Ph Eur, BP, USP	KG	HS No. 28012000; CAS No. 7553-56-2
103815	Iron extra pure reduced particle size about 10 μm		KG	HS No. 72052900; CAS No. 7439-89-6
103962	Iron(II) fumarate extra pure (ca. 33% Fe)	Ph Eur, BP, USP, FCC	KG	HS No. 29171990; CAS No. 141-01-5
103868	Iron(II) gluconate dihydrate	Ph Eur, BP, USP, E 579	KG	HS No. 29181600; CAS No. 22830-45-1
103963	Iron(II) sulfate heptahydrate cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, FCC	KG	HS No. 28332950; CAS No. 7782-63-0
103967	Iron(II) sulfate hydrate (about 87 % FeSO ₄) extra pure	BP, USP	KG	HS No. 28332950; CAS No. 13463-43-9
103862	Iron(III) citrate hydrate (about 19% Fe)		KG	HS No. 29181500; CAS No. 207399-12-0
103814	Iron-(III)-chloride hexahydrate suitable for use as excipient EMPROVE® exp	Ph Eur	KG	HS No. 28273920; CAS No. 10025-77-1
105357	L-Isoleucine	Ph Eur, USP	G, KG	HS No. 29224995; CAS No. 73-32-5
817066	Isopropyl myristate	Ph Eur, NF	L	HS No. 29159080; CAS No. 110-27-0



LK	Catalog No.	Article	Monographs	ME	HS No.; CAS No.
Ø	108117	Kieselguhr purified and calcined suitable for use as excipient EMPROVE® exp	NF		HS No. 38029000; CAS No. 68855-54-9



For quick and easy access to more information, simply see www.merck4pharma.com – and don't forget to use the search function options!





Kesetpuhr portfleif and salsines



Catalog No.	Article	Monographs	ME	HS No.; CAS No.
100366	(S)-Lactic acid about 90% extra pure	Ph Eur, BP, E 270	L	HS No. 29181100
107656	Lactose monohydrate (milk sugar) powder suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	ST, KG	HS No. 17021100; CAS No. 10039-26-6
137045	Lactose monohydrate powder suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, NF	ST, KG	HS No. 17021100; CAS No. 10039-26-6
108195	Lactose monohydrate special grade for tabletting suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	ST, KG	HS No. 17021100; CAS No. 10039-26-6
105020	L-Leucine suitable for use as excipient EMPROVE® exp	Ph Eur, USP	G, KG	HS No. 29224995; CAS No. 61-90-5
113975	LiChroprep® CN (25-40 μm) for liquid chromatography		KG	HS No. 38249097
113959	LiChroprep® CN (40-63 μm) for liquid chromatography		KG	HS No. 38249097
109375	LiChroprep® CN 15-25μm		KG	HS No. 38249097
113973	LiChroprep® DIOL (40-63 μm) for liquid chromatography		KG	HS No. 38249097
109378	LiChroprep® DIOL 15-25μm		KG	HS No. 38249097
113925	LiChroprep® NH ₂ (25-40 μm) for liquid chromatography		KG	HS No. 38249097
113974	LiChroprep® NH ₂ (40-63 μm) for liquid chromatography		KG	HS No. 38249097
109374	LiChroprep® NH₂ 15-25 μm		KG	HS No. 38249097
113901	LiChroprep® RP–18 (15–25 μm) for liquid chromatography		KG	HS No. 38249097
109303	LiChroprep® RP–18 (25–40 μm) for liquid chromatography		KG	HS No. 38249097
113900	LiChroprep® RP-18 (40-63 μm) for liquid chromatography		KG	HS No. 38249097
113902	LiChroprep® RP-18 (5-20 μm) for liquid chromatography		KG	HS No. 38249097
109304	LiChroprep® RP-2 (25-40 μm) for liquid chromatography		KG	HS No. 38249097
113903	LiChroprep® RP-8 (15-25 μm) for liquid chromatography		KG	HS No. 38249097
109324	LiChroprep® RP-8 (25-40 μm) for liquid chromatography		KG	HS No. 38249097
109362	LiChroprep® RP-8 (40-63 μm) for liquid chromatography		KG	HS No. 38249097
109302	LiChroprep® RP-select B (25-40 μm) for liquid chromatography		KG	HS No. 38249097
109367	LiChroprep® RP-select B 15-25 μm		KG	HS No. 38249097
113904	LiChroprep® Si 100 (25-40 μm) for liquid chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
109336	LiChroprep® Si 60 (15-25 μm) for liquid chromatography		KG	HS No. 28112200; CAS No. 7631-86-9

Catalog No.	Article	Monographs	ME	HS No.; CAS No.
109390	LiChroprep® Si 60 (25-40 μm) for liquid chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
113905	LiChroprep® Si 60 (40-63 μm) for liquid chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
109319	LiChroprep® Si 60 (5-20 μm) for liquid chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
119667	LiChrospher® 100 CN (12 μm) for preparative HPLC		KG	HS No. 38249097
119675	LiChrospher® 100 DIOL 12 μm		KG	HS No. 38249097
119674	LiChrospher® 100 NH ₂ 12 μm		KG	HS No. 38249097
119656	LiChrospher® 100 RP-18 (12 μm) for preparative HPLC		KG	HS No. 38249097
119676	LiChrospher® 100 RP-18 E 12 μm		KG	HS No. 38249097
119677	LiChrospher® 100 RP-8 12 μm		KG	HS No. 38249097
119655	LiChrospher® 60 RP-select B (12 μm) for preparative HPLC		KG	HS No. 38249097
111023	LiChrospher® 60 RP-select B for preparative HPLC (15 μm)		KG	HS No. 38249097
119654	LiChrospher® Si 60 (12 μm) for preparative HPLC		KG	HS No. 28112200; CAS No. 7631-86-9
111024	LiChrospher® Si 60 (15 μm) for preparative HPLC		KG	HS No. 28112200
119662	LiChrospher® WP 300 RP-18 (12 μm) for preparative HPLC		KG	HS No. 38249097
119659	LiChrospher® WP 300 RP-18 (15 μm) for preparative HPLC		KG	HS No. 38249097
105671	Lithium carbonate extra pure	Ph Eur, BP, USP	KG	HS No. 28369100; CAS No. 554-13-2
105683	tri- Lithium citrate tetrahydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP	KG	HS No. 29181500; CAS No. 6080-58-6
105281	Lysozyme (from egg white) 50000 U/mg cryst. (hydrochloride) for biochemistry EC 3.2.1.17		ST	HS No. 35079090; CAS No. 9001-63-2
105701	L-Lysine monohydrochloride suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 29224100; CAS No. 657-27-2

Catalog No.	Article	Monographs	ME	HS No.; CAS No.
105832	Magnesium chloride hexahydrate cryst. suitable for use as excipient	Ph Eur, BP, USP,	KG	HS No. 28273100;
137008	EMPROVE® exp Magnesium chloride hexahydrate cryst. suitable for biopharmaceutical	Ph Eur, BP, USP,	KG	CAS No. 7791-18-6 HS No. 28273100;
102335	production EMPROVE® bio Magnesium citrate anhydrous (about 15.5 % Mg)	ACS DAC, USP	KG	CAS No. 7791-18-6 HS No. 29181500;
105004			KG	CAS No. 3344-18-1
105904	Magnesium citrate extra pure		KG	HS No. 29181500; CAS No. 7779-25-1
105872	Magnesium hydrogen phosphate trihydrate extra pure	DAB	KG	HS No. 28352990; CAS No. 7782-75-4
105829	Magnesium hydroxide carbonate heavy extra pure	Ph Eur, BP, USP, E 504	KG	HS No. 28369911; CAS No. 12125-28-9
105828	Magnesium hydroxide carbonate light extra pure	Ph Eur, BP	KG	HS No. 28369911; CAS No. 12125-28-9
105870	Magnesium hydroxide extra pure	Ph Eur, BP, USP	KG	HS No. 28161000; CAS No. 1309-42-8
105867	Magnesium oxide heavy extra pure	Ph Eur, BP, USP	KG	HS No. 25199010; CAS No. 1309-48-4
105862	Magnesium oxide light extra pure	Ph Eur, BP, E 530	KG	HS No. 25199010; CAS No. 1309-48-4
104643	Magnesium phosphinate hexahydrate (Magnesium hypophosphite hexahydrate) extra pure		KG	HS No. 28351000; CAS No. 7783-17-7
105882	Magnesium sulfate heptahydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, JP	KG	HS No. 28332100; CAS No. 10034-99-8
105885	Magnesium sulfate hydrate suitable for use as excipient EMPROVE® exp	DAC	KG	HS No. 28332100; CAS No. 22189-08-8
817058	Maleic acid	Ph Eur, NF	KG	HS No. 29171990; CAS No. 110-16-7
100383	DL-Malic acid suitable for use as excipient EMPROVE® exp	Ph Eur, NF, FCC, E 296	KG	HS No. 29181985; CAS No. 6915-15-7
105911	Maltose monohydrate suitable for use as excipient EMPROVE® exp		KG	HS No. 17029010; CAS No. 6363-53-7
105999	Manganese(II) sulfate monohydrate spray dried suitable for use as excipient EMPROVE® exp	Ph Eur, USP, FCC	KG	HS No. 28332990; CAS No. 10034-96-5
	Magnesium stearate (= Parteck® LUB)			
	Mannitol (= Parteck® Delta M + Parteck® M)			



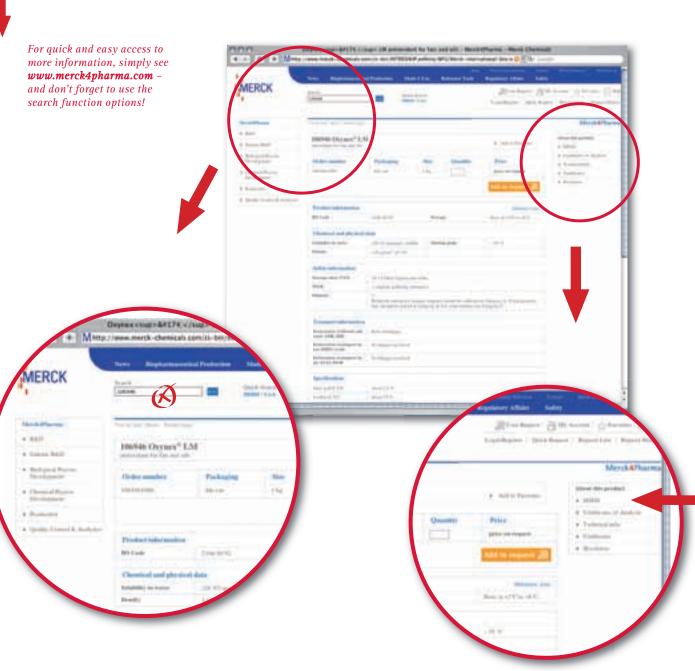
M	Catalog No.	Article	Monographs	ME	HS No.; CAS No.
	105980	D(-)-Mannitol suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, USP, FCC, E 421	KG	HS No. 29054300; CAS No. 69-65-8
	105988	D(-)-Mannitol fine powder suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, JP, FCC, E 421	KG	HS No. 29054300; CAS No. 69-65-8
	105303	D(-)- Mannitol low in endotoxins suitable for use as active pharmaceutical ingredient EMPROVE® api	Ph Eur, BP, USP, JP	KG	HS No. 29054300; CAS No. 69-65-8
	106143	Meglumine low in endotoxins suitable for use as active pharmaceutical ingredient EMPROVE® api	Ph Eur, JP, USP	KG	HS No. 29221980; CAS No. 6284-40-8
	105995	(-)-Menthol cryst.	Ph Eur, BP, USP	KG	HS No. 29061100; CAS No. 2216-51-5
	106008	Methanol suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	L	HS No. 29051100; CAS No. 67-56-1
	106508	Methanol suitable for preparative chromatography EMPROVE® bio	Ph Eur, BP, NF	L	HS No. 29051100; CAS No. 67-56-1
	500986	DL- Methionine suitable for use as excipient EMPROVE® exp	Ph Eur, BP	KG	HS No. 29304090; CAS No. 59-51-8
	106757	Methyl 4-hydroxybenzoate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, FCC, E 218	KG	HS No. 29182930; CAS No. 99-76-3
	106756	Methyl 4-hydroxybenzoate sodium salt suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, E 219	KG	HS No. 29182930; CAS No. 5026-62-0
	817071	Methyl nicotinate	Ph Eur	KG	HS No. 29333999; CAS No. 93-60-7
	106070	Methyl salicylate synthetic, extra pure	Ph Eur, BP, NF	L	HS No. 29182310; CAS No. 119-36-8
	106126	2-Morpholinoethanesulfonic acid monohydrate buffer substance MES		G, KG	HS No. 29349990; CAS No. 145224-94-8

Catalog No.	Article	Monographs	ME	HS No.; CAS No.	N.
106249	Naphazoline hydrochloride suitable for use as active pharmaceutical ingredient EMPROVE® api	Ph Eur, BP, USP	KG	HS No. 29332910; CAS No. 550-99-2	
106247	Naphazoline nitrate suitable for use as active pharmaceutical ingredient EMPROVE® api	Ph Eur, BP, USP	KG	HS No. 29332910; CAS No. 5144-52-5	
500299	Nicotinamide	Ph Eur, BP, USP, FCC	KG	HS No. 29362990; CAS No. 98-92-0	
500005	Nicotinic acid extra pure	Ph Eur, BP, USP	KG	HS No. 29362990; CAS No. 59-67-6	



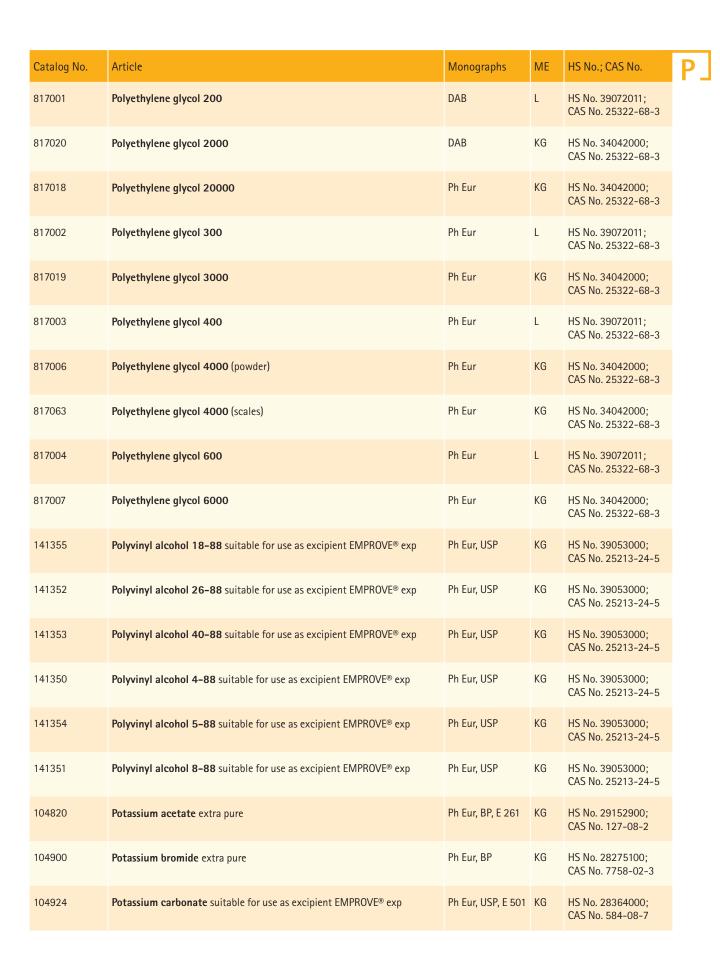
0	Catalog No.	Article	Monographs	ME	HS No.; CAS No.
	100471	Oleic acid vegetable extra pure	Ph Eur, BP, NF	L	HS No. 38231200; CAS No. 112-80-1
	108330	Oxynex® L liquid antioxidant for fats and oils		L	HS No. 21069092
Ø	106946	Oxynex® LM antioxidant for fats and oils		KG	HS No. 21069092





Catalog No.	Article	Monographs	ME	HS No.; CAS No.
107130	Pancreatin (from porcine pancreas) 350 FIP-U/g (activated) protease, 6000 FIP-U/g lipase, 7500 FIP-U/g amylase, suitable for use as excipient EMPROVE® exp	USP	KG	HS No. 35079090; CAS No. 8049-47-6
107133	Pancreatin (from porcine pancreas), 1400 FIP-U/g (activated) protease, 24000 FIP-U/g lipase, 30000 FIP-U/g amylase, suitable for use as excipient EMPROVE® exp	Ph Eur, 4 x USP	KG	HS No. 35079090; CAS No. 8049-47-6
107149	Papain 30000 USP-U/mg stabilized with sodium disulfite suitable for use as excipient EMPROVE® exp		KG	HS No. 35079090
107147	$\label{eq:paper_paper_paper_paper} \textbf{Papain 6000} \ \text{USP-U/mg stabilized with sodium disulfite suitable for use} \\ as excipient \ \text{EMPROVE}^{\circledR} \ \text{exp}$		KG	HS No. 35079090
107174	Paraffin highly liquid	Ph Eur, BP, NF	L	HS No. 27101985; CAS No. 8012-95-1
104005	Paraformaldehyde extra pure	DAC	KG	HS No. 29126000; CAS No. 30525-89-4
112635	Parteck® Delta M (Mannitol) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, USP, E 421	KG	HS No. 29054300; CAS No. 69-65-8
100664	Parteck® LUB CST (Calcium stearate vegetable grade) suitable for use as excipient EMPROVE® exp	Ph Eur, NF, FCC, JP, BP	KG	HS No. 38249097; CAS No. 1592-23-0
100663	Parteck® LUB MST (Magnesium stearate vegetable grade) suitable for use as excipient EMPROVE® exp	Ph Eur, JP, NF, FCC, BP	KG	HS No. 38249097; CAS No. 557-04-0
100661	Parteck® LUB STA (Stearic acid vegetable grade)	Ph Eur, JP, NF, BP	KG	HS No. 38231100; CAS No. 57-11-4
100419	Parteck® M 200 (Mannitol) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, USP, E 421	KG	HS No. 29054300
100493	Parteck® M 300 (Mannitol) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, USP, E 421	KG	HS No. 29054300
100494	Parteck® M100 (Mannitol) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, USP, E 421	KG	HS No. 29054300
103583	Parteck® SI 150 (Sorbitol) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, NF, E 420	KG	HS No. 29054491; CAS No. 50-70-4
115079	Parteck® SI 200 (Sorbitol) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, E 420	KG	HS No. 29054491; CAS No. 50-70-4
103140	Parteck® SI 400 (Sorbitol) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, E 420	KG	HS No. 29054491; CAS No. 50-70-4
111597	Parteck® SI 400 LEX (Sorbitol) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF,JP	KG	HS No. 29054491; CAS No. 50-70-4
103557	Parteck® SI 450 (Sorbitol) suitable for use as excipient EMPROVE® exp	NF, FCC	KG	HS No. 29054499; CAS No. 50-70-4

)	Catalog No.	Article	Monographs	ME	HS No.; CAS No.
	107197	Pepsin (from porcine gastric mucosa) 0.7 Ph Eur U/mg EC 3.4.23.1 suitable for use as excipient EMPROVE® exp		KG	HS No. 35079090; CAS No. 9001-75-6
	107190	Pepsin (from porcine gastric mucosa) 2000 FIP-U/g EC 3.4.23.1 suitable for use as excipient EMPROVE® exp		KG	HS No. 35079090; CAS No. 9001-75-6
	100909	Petroleum benzine boiling range 40-60°C extra pure	DAB	L	HS No. 27101125; CAS No. 64742-49-0
	109371	PharmPrep® 60 CC (25-40 μ m) for column chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
	109372	PharmPrep® 60 CC (40-63 μm) for column chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
	109373	PharmPrep® 60 CC (63-200 μm) for column chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
	109403	PharmPrep® HP 100 RP-18 (10µm) for preparative HPLC		KG	HS No. 38249097
	109321	PharmPrep® HP Si 100 (10 μm) for preparative HPLC		KG	HS No. 28112200; CAS No. 7631-86-9
	819167	Phenanthridine special quality		KG	HS No. 29339990; CAS No. 229-87-8
	100201	Phenol suitable for use as excipient EMPROVE® exp	Ph Eur, USP	KG	HS No. 29071100; CAS No. 108-95-2
	107230	Phenolphthalein suitable for use as excipient EMPROVE® exp	Ph Eur	ST, KG	HS No. 29322910; CAS No. 77-09-8
	137038	Phenol red (phenolsulfonphthaleine) suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, ACS	ST	HS No. 29349990; CAS No. 143-74-8
	107260	Phenyl salicylate extra pure	ÖAB	KG	HS No. 29182310; CAS No. 118-55-8
	107267	L-Phenylalanine	Ph Eur, USP	G, KG	HS No. 29224995; CAS No. 63-91-2
	100563	ortho- Phosphoric acid 85 % suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, E 338	L	HS No. 28092000
	100564	ortho-Phosphoric acid 89 % extra pure	Ph Eur, BP	L	HS No. 28092000
	107327	Piperazine hexahydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP	KG	HS No. 29335995; CAS No. 142-63-2
	817009	Polyethylene glycol 1000	Ph Eur	KG	HS No. 34042000; CAS No. 25322-68-3
	817008	Polyethylene glycol 10000		KG	HS No. 34042000; CAS No. 25322-68-3
	817005	Polyethylene glycol 1500 (scales)	Ph Eur	KG	HS No. 34042000; CAS No. 25322-68-3



)	Catalog No.	Article	Monographs	ME	HS No.; CAS No.
	104935	Potassium chloride suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, FCC, E 508	KG	HS No. 31042090; CAS No. 7447-40-7
	104937	Potassium chloride suitable for use as excipient EMPROVE® exp	Ph Eur, BP, E 508	KG	HS No. 31042090; CAS No. 7447-40-7
	137009	Potassium chloride suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, USP	KG	HS No. 31042090; CAS No. 7447-40-7
	104956	tri- Potassium citrate monohydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, FCC, E 332	KG	HS No. 29181500; CAS No. 6100-05-6
	104871	Potassium dihydrogen phosphate cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, E 340	KG	HS No. 28352400; CAS No. 7778-77-0
	137039	Potassium dihydrogen phosphate cryst. suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, NF	KG	HS No. 28352400; CAS No. 7778-77-0
	105056	Potassium disulfite extra pure	Ph Eur, NF, E 224	KG	HS No. 28322000; CAS No. 16731-55-8
	817028	Potassium gluconate	USP, E 577	KG	HS No. 29181600; CAS No. 299-27-4
	104852	Potassium hydrogen carbonate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, FCC, E 501	KG	HS No. 28364000; CAS No. 298-14-6
	105101	di-Potassium hydrogen phosphate anhydrous suitable for use as excipient EMPROVE® exp	Ph Eur, BP, E 340	KG	HS No. 28352400; CAS No. 7758-11-4
	137010	di-Potassium hydrogen phosphate anhydrous suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP	KG	HS No. 28352400; CAS No. 7758-11-4
	109828	di-Potassium hydrogen phosphate anhydrous, low in sodium, suitable for use as active pharmaceutical ingredient EMPROVE® api	Ph Eur, BP, USP	KG	HS No. 28352400; CAS No. 7758-11-4
	105032	Potassium hydroxide pellets extra pure	Ph Eur, BP, JP, NF, FCC, E 525	KG	HS No. 28152010; CAS No. 1310-58-3
	105040	Potassium iodide suitable for use as active pharmaceutical ingredient EMPROVE® api	Ph Eur, BP, USP	KG	HS No. 28276000; CAS No. 7681-11-0
	105061	Potassium nitrate extra pure	Ph Eur, BP, USP, FCC, E 252	KG	HS No. 28342100; CAS No. 7757-79-1
	105102	tri-Potassium Phosphate trihydrate extra pure		KG	HS No. 28352400; CAS No. 22763-03-7
	105119	Potassium sorbate granules suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, FCC, E 202	KG	HS No. 29161970; CAS No. 24634-61-5
	105118	Potassium sorbate powder suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, FCC, E 202	KG	HS No. 29161970; CAS No. 24634-61-5
	105150	Potassium sulfate cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP	KG	HS No. 31043000; CAS No. 7778-80-5

Catalog No.	Article	Monographs	ME	HS No.; CAS No.	P
105151	Potassium sulfate powder suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, E 515	KG	HS No. 31043000; CAS No. 7778-80-5	
105169	Potassium tetrathionate		KG	HS No. 28429080; CAS No. 13932-13-3	
107467	Procaine hydrochloride extra pure suitable for use as active pharmaceutical ingredient EMPROVE® api	Ph Eur, BP, JP, USP		HS No. 29224995; CAS No. 51-05-8	
107430	L-Proline	Ph Eur, USP	G, KG	HS No. 29339990; CAS No. 147-85-3	
107478	1,2- Propanediol suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	L	HS No. 29053200; CAS No. 57-55-6	
480798	2-Propanol 70% aqueous solution		L	HS No. 29051200;	
137040	2-Propanol 70% suitable for the biopharmaceutical production		L	HS No. 29051200	
100995	2-Propanol extra pure	Ph Eur, BP, USP	L	HS No. 29051200; CAS No. 67-63-0	
107427	Propyl 4-hydroxybenzoate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, FCC	KG	HS No. 29182930; CAS No. 94-13-3	
107428	Propyl 4-hydroxybenzoate sodium salt suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	KG	HS No. 29182930; CAS No. 35285-69-9	
501260	Pyridoxol (pyridoxine) vitamin B6 base		KG	HS No. 29362500; CAS No. 65-23-6	
106619	Pyruvic acid sodium salt for biochemistry		ST	HS No. 29183000; CAS No. 113-24-6	



R	Catalog No.	Article	Monographs	ME	HS No.; CAS No.
	107590	Resorcinol extra pure	BP, Ph Eur, USP	KG	HS No. 29072100; CAS No. 108-46-3
	500257	Riboflavine	Ph Eur, BP, JP, USP, E 101	KG	HS No. 29362300; CAS No. 83-88-5
	500259	Riboflavine 5'-phosphate monosodium salt dihydrate (vitamin B2 5'-phosphate monosodium salt)	Ph Eur, BP, JP, USP, E 101a	KG	HS No. 29362300; CAS No. 6184-17-4



Catalog No.	Article	Monographs	ME	HS No.; CAS No.
817022	Saccharin	Ph Eur, NF	KG	HS No. 29251100; CAS No. 81-07-2
817042	Saccharin sodium dihydrate	Ph Eur	KG	HS No. 29251100; CAS No. 6155-57-3
100631	Salicylic acid extra pure	Ph Eur, BP, USP	KG	HS No. 29182100; CAS No. 69-72-7
100635	Salicylic acid fine powder extra pure	Ph Eur, BP, USP	KG	HS No. 29182100; CAS No. 69-72-7
107647	L-Serine suitable for use as excipient EMPROVE® exp	Ph Eur, USP	G, KG	HS No. 29225000; CAS No. 56-45-1
107719	Silica gel 60 silanized (0.063-0.200 mm) for column chromatography		KG	HS No. 38249097
107729	Silica gel 60 (less than 0.063 mm) for column chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
107733	Silica gel 60 (0.2-0.5 mm) for column chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
107734	Silica gel 60 (0.063-0.200 mm) for column chromatography (70-230 mesh ASTM)		KG	HS No. 28112200; CAS No. 7631-86-9
107754	Silica gel 60 extra pure for column chromatography 0.063 - 0.200 mm (70 - 230 mesh ASTM)		KG	HS No. 28112200; CAS No. 7631-86-9
110184	Silica gel 100 (0.063-0.200 mm) for column chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
110185	Silica gel 100 (0.2-0.5 mm) for column chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
110180	Silica gel 40 (0.063-0.200 mm) for column chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
110181	Silica gel 40 (0.2-0.5 mm) for column chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
115111	Silica gel 60 (0.015-0.040 mm) for column chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
109385	Silica gel 60 (0.040-0.063 mm) for column chromatography (230-400 mesh ASTM)		KG	HS No. 28112200; CAS No. 7631-86-9
115101	Silica gel 60 (0.063-0.100 mm) for column chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
109389	Silica gel 60 (35-70 μm) for Flash-Chromatography		KG	HS No. 28112200; CAS No. 7631-86-9
110757	Silica gel 60 F254 (0.063-0.200 mm) adjusted to 40 % relative humidity, suitable for dry-column chromatography		KG	HS No. 38249097
113126	Silicon dioxide highly dispersed extra pure	Ph Eur, NF, E 551		HS No. 28112200; CAS No. 7631-86-9

Catalog No.	Article	Monographs	ME	HS No.; CAS No.
101510	Silver nitrate cryst. extra pure	Ph Eur, BP, USP	G	HS No. 28432100; CAS No. 7761-88-8
101536	Silver protein mild (19-23 % Ag)	BPC 1968	KG	HS No. 28432900; CAS No. 9015-51-4
106236	Sodium acetate anhydrous extra pure	USP, FCC, E 262	KG	HS No. 29152900; CAS No. 127-09-3
106281	Sodium acetate anhydrous extra pure	USP, FCC, E 262	KG	HS No. 29152900; CAS No. 127-09-3
137046	Sodium acetate anhydrous suitable for the biopharmaceutical production	USP	KG	HS No. 29152900; CAS No. 127-09-3
106235	Sodium acetate trihydrate extra pure	Ph Eur, BP, JP, USP, FCC, E 262	KG	HS No. 29152900; CAS No. 6131-90-4
106265	Sodium acetate trihydrate extra pure	Ph Eur, BP, JP, USP, FCC, E 262	KG	HS No. 29152900; CAS No. 6131-90-4
137012	Sodium acetate trihydrate suitable for the biopharmaceutical production	Ph Eur, BP, JP, USP	KG	HS No. 29152900; CAS No. 6131-90-4
106290	Sodium benzoate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, FCC, E 211	KG	HS No. 29163100; CAS No. 532-32-1
106360	Sodium bromide extra pure	Ph Eur, BP	KG	HS No. 28275100; CAS No. 7647-15-6
817081	Sodium caprylate	Ph Eur	KG	HS No. 29159080; CAS No. 1984-06-1
106398	Sodium carbonate anhydrous suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	KG	HS No. 28362000; CAS No. 497-19-8
137014	Sodium carbonate anhydrous suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, NF	KG	HS No. 28362000; CAS No. 497-19-8
106384	Sodium carbonate decahydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, E 500	KG	HS No. 28362000; CAS No. 6132-02-1
106386	Sodium carbonate monohydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, E 500	KG	HS No. 28362000; CAS No. 5968-11-6
106400	Sodium chloride suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 25010091; CAS No. 7647-14-5
116224	Sodium chloride low in endotoxins suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, USP	KG	HS No. 25010091; CAS No. 7647-14-5
137017	Sodium chloride suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, JP, USP	KG	HS No. 25010091; CAS No. 7647-14-5
106431	tri- Sodium citrate 5,5-hydrate suitable for use as excipient EMPROVE® exp	FU VIII, E 331	KG	HS No. 29181500; CAS No. 6858-44-2

Catalog No.	Article	Monographs	ME	HS No.; CAS No.
111037	tri-Sodium citrate anhydrous suitable for use as excipient EMPROVE® exp	USP, FCC, E 331	KG	HS No. 29181500; CAS No. 68-04-2
106432	tri- Sodium citrate dihydrate cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, E 331	KG	HS No. 29181500; CAS No. 6132-04-3
137042	tri- Sodium citrate dihydrate cryst. suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, USP, ACS	KG	HS No. 29181500; CAS No. 6132-04-3
106447	tri- Sodium citrate dihydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 29181500; CAS No. 6132-04-3
106446	tri- Sodium citrate dihydrate powder suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, E 331	KG	HS No. 29181500; CAS No. 6132-04-3
817044	Sodium cyclamate	Ph Eur	KG	HS No. 29299000; CAS No. 139-05-9
106345	Sodium dihydrogen phosphate dihydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, JPE, FCC, E 339	KG	HS No. 28352200; CAS No. 13472-35-0
137018	Sodium dihydrogen phosphate dihydrate suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, USP, JPE	KG	HS No. 28352200; CAS No. 13472-35-0
106349	Sodium dihydrogen phosphate monohydrate suitable for use as excipient EMPROVE® exp	BP, USP	KG	HS No. 28352200; CAS No. 10049-21-5
106357	Sodium disulfite (sodium metabisulfite) extra pure	Ph Eur, BP, NF, E 223	KG	HS No. 28321000; CAS No. 7681-57-4
817034	Sodium dodecyl sulfate	Ph Eur	KG	HS No. 29209010; CAS No. 151-21-3
106441	Sodium fluoride suitable for use as active pharmaceutical ingredient EMPROVE® api	Ph Eur, BP, USP	KG	HS No. 28261910; CAS No. 7681-49-4
817068	Sodium formaldehydesulfoxylate hydrate stabilized with sodium carbonate	NF	KG	HS No. 28311000; CAS No. 149-44-0
817054	Sodium gluconate	USP, E 576	KG	HS No. 29181600; CAS No. 527-07-1
106323	Sodium hydrogen carbonate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, FCC, E 500,JP	KG	HS No. 28363000; CAS No. 144-55-8
137013	Sodium hydrogen carbonate suitable for the biopharmaceutical production EMPROVE® bio	Ph Eur, BP, USP	KG	HS No. 28363000; CAS No. 144-55-8
106585	di- Sodium hydrogen phosphate anhydrous suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, E 339	KG	HS No. 28352200; CAS No. 7558-79-4
106576	di- Sodium hydrogen phosphate dihydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 28352200; CAS No. 10028-24-7
106573	di- Sodium hydrogen phosphate dodecahydrate cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, USP	KG	HS No. 28352200; CAS No. 10039-32-4

S	Catalog No.	Article	Monographs	ME	HS No.; CAS No.
	106574	di-Sodium hydrogen phosphate heptahydrate suitable for use as excipient EMPROVE® exp	DAC,USP	KG	HS No. 28352200; CAS No. 7782-85-6
	137036	di- Sodium hydrogen phosphate suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, USP	KG	HS No. 28352200; CAS No. 10028-24-7
	106482	Sodium hydroxide pellets extra pure	Ph Eur, BP, JP, NF, FCC, E 524	KG	HS No. 28151100; CAS No. 1310-73-2
	137020	Sodium hydroxide pellets suitable for the biopharmaceutical production	Ph Eur, BP, JP, NF, ACS	KG	HS No. 28151100; CAS No. 1310-73-2
	137031	Sodium hydroxide solution 1 mol/l suitable for the biopharmaceutical production		L	HS No. 28151200
	480648	Sodium hydroxide solution 10 mol/l extra pure		L	HS No. 28151200;
	137023	Sodium hydroxide solution 32 % suitable for the biopharmaceutical production		L	HS No. 28151200
	137041	Sodium hydroxide solution 5 mol/l suitable for the biopharmaceutical production		L	HS No. 28151200
	137032	Sodium hydroxide solution 6 mol/l suitable for the biopharmaceutical production		L	HS No. 28151200
	106520	Sodium iodide suitable for use as excipient EMPROVE® exp	BP, Ph Eur, USP	KG	HS No. 28276000; CAS No. 7681-82-5
	106522	Sodium lactate solution about 50% extra pure, low in endotoxins	Ph Eur, BP, USP	KG	HS No. 29181100
	106445	Sodium L-glutamate monohydrate suitable for use as excipient EMPROVE® exp	FCC, NF, E 621	KG	HS No. 29224200; CAS No. 6106-04-3
	106544	Sodium nitrite extra pure	Ph Eur, USP	KG	HS No. 28341000; CAS No. 7632-00-0
	106577	tri- Sodium phosphate dodecahydrate suitable for use as excipient EMPROVE® exp	NF, E 339	KG	HS No. 28352930; CAS No. 10101-89-0
	104646	Sodium Phosphinate monohydrate (sodium hypophosphite monohydrate) suitable for use as excipient EMPROVE® exp	DAC	KG	HS No. 28351000; CAS No. 10039-56-2
	106529	Sodium polyphosphate extra pure (Graham's salt)		ST, KG	HS No. 28353900; CAS No. 10361-03-2
	106600	Sodium salicylate cryst. extra pure	Ph Eur, BP, USP	KG	HS No. 29182100; CAS No. 54-21-7
	106602	Sodium salicylate powder extra pure	Ph Eur, BP, USP	KG	HS No. 29182100; CAS No. 54-21-7
	106643	Sodium sulfate anhydrous suitable for use as excipient EMPROVE® exp	Ph Eur, BP, E 514	KG	HS No. 28331100; CAS No. 7757-82-6
	106645	Sodium sulfate anhydrous extra pure fine powder	Ph Eur, BP, USP	KG	HS No. 28331100; CAS No. 7757-82-6
	106642	Sodium sulfate decahydrate cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 28331100; CAS No. 7727-73-3

Catalog No.	Article	Monographs	ME	HS No.; CAS No.
106652	Sodium sulfite extra pure	Ph Eur, BP, NF, E 221	KG	HS No. 28321000; CAS No. 7757-83-7
106303	di- Sodium tetraborate decahydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	KG	HS No. 28401990; CAS No. 1303-96-4
106514	Sodium thiosulfate pentahydrate cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 28323000; CAS No. 10102-17-7
106513	Sodium thiosulfate pentahydrate pure		KG	HS No. 28323000; CAS No. 10102-17-7
100662	Sorbic acid suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, FCC, E 200	KG	HS No. 29161930; CAS No. 110-44-1
102975	Sorbitol FP liquid (sorbitol syrup, noncrystallizing) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, E 420	KG	HS No. 38246019
102994	Sorbitol liquid (sorbitol syrup, crystallizing) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, E 420	KG	HS No. 29054411
	Sorbitol (= Parteck® Si)			
101252	Starch soluble GR for analysis ISO		KG	HS No. 35051090; CAS No. 9005-84-9
101253	Starch soluble extra pure		KG	HS No. 35051090; CAS No. 9005-84-9
	Stearic acid (= Parteck® LUB)			
817082	Stearyl alcohol	Ph Eur	KG	HS No. 29051700; CAS No. 112-92-5
100681	Succinic acid cryst. suitable for use as excipient EMPROVE® exp	NF	KG	HS No. 29171990; CAS No. 110-15-6
107653	Sucrose suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, NF	KG	HS No. 17019910; CAS No. 57-50-1
107654	Sucrose (saccharose) for density gradient ultracentrifugation, suitable for biopharmaceutical production EMPROVE® bio		ST	HS No. 17019910; CAS No. 57-50-1
100892	Sucrose low in endotoxins suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, NF	KG	HS No. 17019910; CAS No. 57-50-1
108035	Sulfanilamide extra pure	Ph Eur	KG	HS No. 29350090; CAS No. 63-74-1
107983	Sulfur for external use	Ph Eur, BP	KG	HS No. 28020000; CAS No. 7704-34-9
480704	Sulfuric acid 10 % extra pure		L	HS No. 28070010;
100713	Sulfuric acid 95-98% extra pure	Ph Eur, BP, NF, Ph Franç	L	HS No. 28070010; CAS No. 7664-93-9

Catalog No.	Article	Monographs	ME	HS No.; CAS No.
108196	Tabletting aid D		KG	HS No. 38249064
108197	Tabletting aid K (cellulose powder)	Ph Eur, BP, JP, NF, E 460 ii)	KG	HS No. 39129090; CAS No. 9004-34-6
108070	Talc extra fine powder extra pure	Ph Eur, BP, JP, USP	KG	HS No. 25262000; CAS No. 14807-96-6
100773	Tannic acid powder suitable for use as excipient EMPROVE® exp	Ph Eur, USP	KG	HS No. 32019090; CAS No. 1401-55-4
100802	L(+) Tartaric acid cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF, E 334	KG	HS No. 29181200; CAS No. 87-69-4
100803	L(+)Tartaric acid powder extra pure	Ph Eur, BP, NF, E 334	KG	HS No. 29181200; CAS No. 87-69-4
500667	Thiamine phosphoric acid ester chloride dihydrate suitable for use as active pharmaceutical ingredient EMPROVE® api		KG	HS No. 29362200; CAS No. 273724-21-3
817043	Thimerosal	Ph Eur, BP, USP	G	HS No. 28520000; CAS No. 54-64-8
108167	Thymol cryst. extra pure suitable for use as excipient EMPROVE® exp	Ph Eur, BP, NF	KG	HS No. 29071990; CAS No. 89-83-8
107813	Tin(II) chloride dihydrate extra pure	Ph Eur, BP	KG	HS No. 28273910; CAS No. 10025-69-1
100805	Titanium(IV) oxide extra pure	Ph Eur, BP, USP, JP, E 171	KG	HS No. 28230000; CAS No. 13463-67-7
108421	Titriplex ® III (Ethylenedinitrilotetraacetic acid disodium salt dihydrate) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, JP, USP	KG	HS No. 29224995; CAS No. 6381-92-6
137004	Titriplex ® III (Ethylenedinitrilotetraacetic acid disodium salt) suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, JP, USP	KG	HS No. 29224995; CAS No. 6381-92-6
113110	Titriplex® VS (Diethylenetriaminepentaacetic acid) suitable for use as active pharmaceutical ingredient EMPROVE® api	USP	KG	HS No. 29224995; CAS No. 67-43-6
500949	all-rac-alpha-Tocopherol	Ph Eur, BP, USP, E 307	KG	HS No. 29362800; CAS No. 10191-41-0
500976	DL-alpha- Tocopherol hydrogen succinate food grade	USP	KG	HS No. 29362800; CAS No. 17407-37-3
500952	all-rac-alpha- Tocopheryl acetate (Vitamin E acetate) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, FCC	G, KG	HS No. 29362800; CAS No. 7695-91-2
108216	Trehalose for biochemistry		ST	HS No. 29400000; CAS No. 99-20-7
103000	Triacetin	Ph Eur, BP, USP	L	HS No. 29153930; CAS No. 102-76-1

Catalog No.	Article	Monographs	ME	HS No.; CAS No.
100810	Trichloroacetic acid cryst. suitable for use as excipient EMPROVE® exp	Ph Eur	G, KG	HS No. 29154000; CAS No. 76-03-9
101005	1,1,1-Trichloro-2-methyl-2-propanol hemihydrate	Ph Eur, BP, JP, NF	KG	HS No. 29055910; CAS No. 6001-64-5
100002	Tributyl phosphate suitable for use as excipient EMPROVE® exp	Ph Eur	ST	HS No. 29199010; CAS No. 126-73-8
108372	Triethanolamine (Trolamine) suitable for use as excipient EMPROVE® exp	Ph Eur	L	HS No. 29221310; CAS No. 102-71-6
137022	Triethanolamine (Trolamine) suitable for the biopharmaceutical production EMPROVE® bio	Ph Eur, NF	L	HS No. 29221310; CAS No. 102-71-6
817059	Triethyl citrate	Ph Eur, NF, E 1505	L	HS No. 29181500; CAS No. 77-93-0
108386	Tris(hydroxymethyl)aminomethane (Trometamol)	Ph Eur, BP, USP	KG	HS No. 29221980; CAS No. 77-86-1
108219	Tris(hydroxymethyl)aminomethane hydrochloride GR for analysis TRIS-HCI		L	HS No. 29221980; CAS No. 1185-53-1
108643	Triton® X-100	Ph Eur, NF	L	HS No. 34021300; CAS No. 9036-19-5
108350	Trypsin (from porcine pancreas) cryst. lyophilized 40 U/mg for biochemistry EC 3.4.21.4		ST	HS No. 35079090; CAS No. 9002-07-7
124590	Trypsin (from porcine pancreas) TPCK-treated, lyophilized 40 U/mg for biochemistry EC 3.4.21.4		ST	HS No. 35079090; CAS No. 9002-07-7
108396	L-Tryptophan suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	G, KG	HS No. 29339990; CAS No. 73-22-3
817072	Tween® 20 (Polysorbate)	Ph Eur, NF	L	HS No. 34021300; CAS No. 9005-64-5
817076	Tween® 60 (Polysorbate)	Ph Eur, NF	L	HS No. 34021300; CAS No. 9005-67-8
817061	Tween® 80 (Polysorbate)	Ph Eur, JP, NF	L	HS No. 34021300; CAS No. 9005-65-6
108378	L-Tyrosine	Ph Eur, USP	G, KG	HS No. 29225000; CAS No. 60-18-4

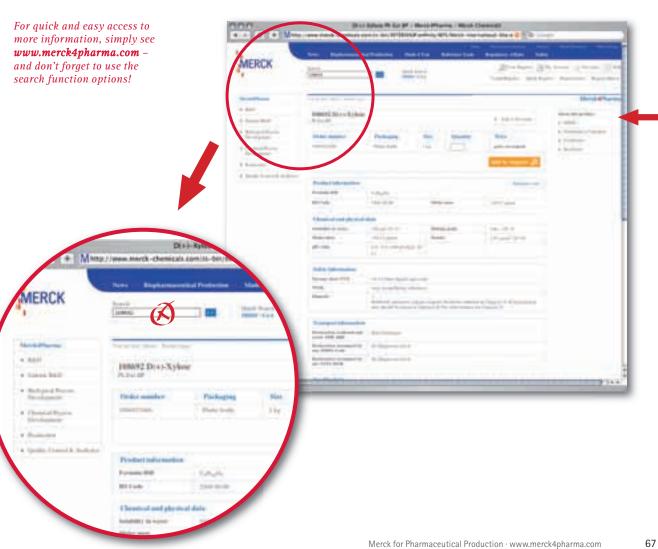
LU	Catalog No.	Article	Monographs	ME	HS No.; CAS No.
	108484	Urea beads suitable for use as excipient EMPROVE® exp	USP	KG	HS No. 31021010; CAS No. 57-13-6
	108486	Urea cryst. suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, JP	KG	HS No. 31021010; CAS No. 57-13-6
	137030	Urea cryst. suitable for biopharmaceutical production EMPROVE® bio	Ph Eur, BP, USP, JP	KG	HS No. 31021010; CAS No. 57-13-6

/ (Catalog No.	Article	Monographs	ME	HS No.; CAS No.
1	108510	Vanillin	Ph Eur, BP, NF	KG	HS No. 29124100; CAS No. 121-33-5
Ę	500849	Vitamin A water-miscible 1 ml = 200,000 l.U. for oral use, suitable for use as excipient EMPROVE® exp	BP, Ph Eur	L	HS No. 29362100
Ę	524950	Vitamin B12 (cyanocobalamin)	Ph Eur, BP, USP	G	HS No. 29362600; CAS No. 68-19-9
Ę	500601	Vitamin B12-lactose trituration 0.1 %		KG	HS No. 21069092
Ę	500619	Vitamin B12-mannitol trituration 0.1%		KG	HS No. 21069092
Ę	500936	Vitamin D3 (cholecalciferol) cryst. (1 $g = 40$ Mio.l.U.) suitable for use as excipient EMPROVE® exp		KG	HS No. 29362990; CAS No. 67-97-0
Ę	501551	$\label{eq:VitaminD3} \mbox{ dry powder 1 g = 100,000 l.U. colecal ciferol stabilized with DL-alpha-tocopherol}$	Ph Eur, BP	KG	HS No. 29362990
Ę	500858	Vitamin E dry powder (33 g all-rac-alpha-tocopheryl acetate in 100 g substance) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 29362800
Ę	500859	Vitamin E dry powder (50 g all-rac-alpha-tocopheryl acetate in 100 g substance) suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 29362800
Ę	500878	Vitamin E dry powder sprayed (50 g all-rac-alpha-tocopheryl acetate in 100 g substance) suitable for use as excipient EMPROVE® exp	Ph Eur, BP	KG	HS No. 29362800
Ĺ	500854	Vitamin E ready-to-press granules (33 g all-rac-alpha-tocopheryl acetate in 100 g substance)	Ph Eur, BP	KG	HS No. 29362800
Ę	500862	Vitamin E water-miscible 1 ml = 500 mg DL-alpha-tocopherol acetate, for oral use, suitable for use as excipient EMPROVE® exp	USP	L	HS No. 29362800
Ę	501890	Vitamin K1 (phytomenadione)	Ph Eur, BP, USP, FCC	G	HS No. 29362990; CAS No. 84-80-0
Ę	501758	Vitamin K1-lactose trituration 1%		KG	HS No. 29362990

Catalog No.	Article	Monographs	ME	HS No.; CAS No.	W
111544	Wax white in pastilles suitable for use as excipient EMPROVE® exp	Ph Eur, BP	KG	HS No. 15219099; CAS No. 8012-89-3	

Catalog No.	Article	Monographs	ME	HS No.; CAS No.	X
108685	Xylene extra pure (mixture of isomers)	Ph Helv VI	ST, L	HS No. 29024400; CAS No. 1330-20-7	
108692	D(+)-Xylose	Ph Eur, BP	KG	HS No. 29400000	





Ca	talog No.	Article	Monographs	ME	HS No.; CAS No.
108	8800	Zinc acetate dihydrate extra pure	USP, Ph Eur	KG	HS No. 29152900; CAS No. 5970-45-6
108	8815	Zinc chloride suitable for use as active pharmaceutical ingredient EMPROVE® api	Ph Eur, BP, USP	KG	HS No. 28273985; CAS No. 7646-85-7
813	7079	Zinc gluconate	USP	KG	HS No. 29181600; CAS No. 4468-02-4
	NKHISTID ROVA	Zinc histidine dihydrate			CAS No. 36450-85-8
108	8846	Zinc oxide suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP	KG	HS No. 28170000; CAS No. 1314-13-2
108	8881	Zinc sulfate heptahydrate suitable for use as excipient EMPROVE® exp	Ph Eur, BP, USP, FCC	KG	HS No. 28332920; CAS No. 7446-20-0
108	8882	Zinc sulfate monohydrate suitable for use as excipient EMPROVE® exp	USP	KG	HS No. 28332920; CAS No. 7446-19-7

Abbreviations / Abkürzungen

BP	= British Pharmacopoeia	Ph Belg	= Pharmacopée Belge
BPC	= British Pharmaceutical Codex	Ph Eur	= Pharmacopoea Europaea
Cod Franç	= Codex Français	Ph Franç	= Pharmacopée Française
DAB	= Deutsches Arzneibuch	Ph Helv	= Pharmacopoea Helvetica
DAC	= Deutscher Arzneimittel-Codex	Ph Nord	= Pharmacopoea Nordica
F Bras	= Farmacopéia dos Estados Unidos do	USP	= The United States Pharmacopeia
Brasil		E-Number:	The substance has been designated a
FCC	= Food Chemicals Codex		foodstuff additive by EU-Directive;
FU	= Farmacopea Ufficiale della Republica		appropriate purity guidelines are
	Italiana		completely fulfilled.
JP	= The Pharmacopoeia of Japan		Das Präparat ist durch EG-Richtlinien als
NF	= The National Formulary		Lebensmittelzusatzstoff zugelassen; die
NNR	= New and Nonofficial Remedies		entsprechenden Reinheitsforderungen
ÖAB	= Österreichisches Arzneibuch		werden erfüllt.





Merck KGaA · Germany
Performance & Life Science Chemicals
Frankfurter Straße 250
D-64271 Darmstadt
Phone +49 (0) 61 51/72-0
Fax +49 (0) 61 51/72-74 95
www.merck-chemicals.com
service.PLS@merck.de
www.merck4pharma.com

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.