



HIGH-PURITY PHARMA SALTS

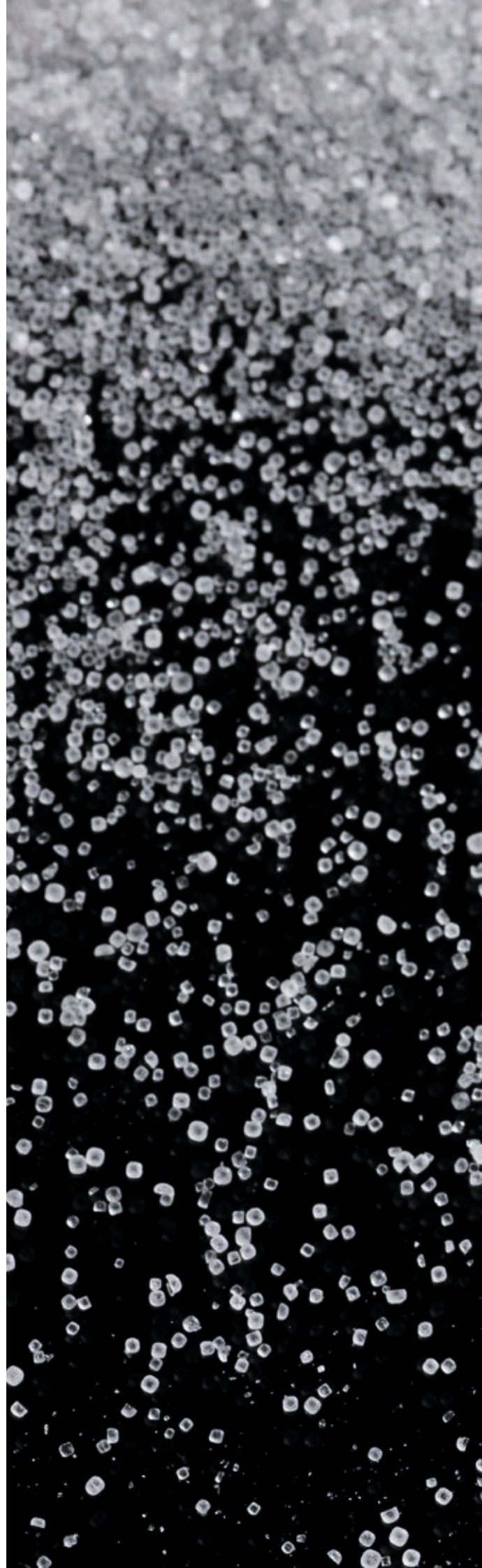


VITAL MINERALS: HIGH-PURITY SODIUM AND POTASSIUM SALTS FOR PHARMACEUTICALS

Pharmaceutical salts are essential substances for the pharmaceutical industry. They are not only used in dialysis and infusion solutions, but also in numerous medications.

K+S offers two premium pharma salts: APISAL® Sodium Chloride GMP grade and Potassium Chloride 99.9% KCl Ph. Eur., USP. Pharmaceutical manufacturers worldwide rely on the quality and safety of our high-purity salts. All crude salts are of natural origin and are refined in complex processes to products of the highest purity levels. The salts are certified and exceed the purity requirements as stipulated in a variety of pharmacopoeias.

At K+S, we work with constant quality controls and with a comprehensive Quality Management System that covers the full value-added chain: starting at the production until the delivery. We regard regular audits of our production facilities by experts and authorities as a matter of course. This is how we ensure to maintain our high quality and safety standards at all times and to deliver every product in impeccable condition.





K+S GROUP: SALT IS OUR PASSION

K+S is one of the largest salt producers worldwide. Salt is more than just a mineral: It is the basic ingredient for many products of the agricultural, industrial and consumer segments.

As the leading producer of pharmaceutical salts, we supply the major pharmaceutical companies in Europe. We also export significant quantities to Asia, Australia, South America and Africa. Together with the affiliated companies of the K+S group overseas we form a unique

global sales and logistics network, with sites on several continents.

Thanks to our modern pharma salt production sites in Europe, we can guarantee our customers high delivery reliability. APISAL® Sodium Chloride GMP grade is produced in Rheinberg (Germany) and Dombasle-sur-Meurthe (France), Potassium Chloride 99.9% KCl Ph. Eur., USP at our site Wintershall (Germany). Our HD NaCl is produced in Rheinberg (Germany).



APISAL®

SODIUM CHLORIDE GMP GRADE

SODIUM CHLORIDE EXCEPTIONALLY HIGH CHEMICAL PURITY

APISAL® Sodium Chloride GMP grade is an active pharmaceutical ingredient. It is ideally suited for the manufacture of enteral and parenteral infusion solutions, as well as for further pharmaceutical applications.

To satisfy the extremely strict requirements in pharmaceutical manufacturing processes, K+S produces a particularly pure pharma salt. It is obtained from special and extremely pure brine using a highly sophisticated vacuum salt method and exceeds the purity requirements as stipulated in a variety of international pharmacopoeias.

APISAL® Sodium Chloride GMP grade is made from premium quality sodium chloride and contains absolutely no additives. It is produced in individual batches and then analyzed. Packaging and storage takes place separately from all other salt production equipment in dedicated areas. We provide an individual analysis certificate with each delivery.

OUR DELIVERY RANGE

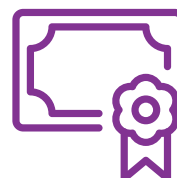
- **25 kg pharma bag** (PE coated paper bag, multilayer)
- **25 kg PE-bag** (PE-bag with inner blue layer)
- **25 kg Bag-in-Bag** (multi-layer paper bag with internal single-used PE-bag)
- **900-1.000 kg single-use FIBC/Big Bag** with Inliner



Complies with the requirements of the **European (Ph. Eur.), American (USP), British (BP) and Japanese (JP)** pharmacopoeias



Manufactured according to the **regulations of the EG GMP part II and ICH Q7 Guidelines**



CEP-Certificate



Kosher and halal certificates



FDA registered



US Drug Master File

HD-NaCl

SODIUM CHLORIDE FOR HAEMODIALYSIS

SODIUM CHLORIDE FOR HAEMODIALYSIS

HD NaCl is an pharmaceutical excipient and is suitable for haemodialyses, ORS, healthcare nutrition, nutraceuticals, skin care and cosmetics.

To satisfy the extremely strict requirements in pharmaceutical manufacturing processes, K+S produces a particularly pure pharmaceutical-grade salt that exceeds the purity requirements set out in various pharmacopoeias. HD-NaCl is made from premium-quality sodium chloride, offers exceptional chemical purity and contains absolutely no additives.

HD-NaCl is produced in individual batches and then analysed. An individual analysis certificate is provided with each delivery. Accompanying HACCP analyses and quality management that accommodates the requirements of ENISO 9001. Lines safeguard our exacting quality standards.

HD-NaCl is obtained from particularly pure brine through a highly sophisticated vacuum salt method. All stages of the production, analysis and quality control process are according to GMP rules. With this precise production process, we guarantee our customers maximum reliability and safety for products based on HD-NaCl.

OUR DELIVERY RANGE

- **25 kg pharma bag**
(PE coated paper bag, multilayer)
- **25 kg PE-bag** (PE-bag with inner blue layer)
- **1.000 kg single-use FIBC/Big Bag**
with Inliner
- **Bulk**



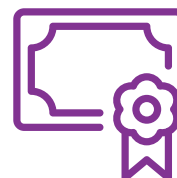
According to the
European (Ph. Eur.), American (USP)



Manufactured according to the
regulations of the **EG GMP part II a**



Excipient CoA



Kosher and halal certificates

POTASSIUM CHLORIDE

99.9% KCL PH. EUR., USP

POTASSIUM CHLORIDE FOR MULTIFUNCTIONAL PURPOSES

Potassium Chloride 99.9% KCl Ph. Eur., USP is extremely versatile. The active pharmaceutical ingredient is ideally suited for the manufacture of enteral and parenteral infusion solutions, as well as for further pharmaceutical applications such as haemodialysis and injection solutions and in potassium tablets.

Our potassium chloride also complies with the extremely strict requirements of pharmaceutical manufacturing processes. It is made from premium quality potassium chloride and is of exceptional chemical purity. Thus, it fulfills the purity requirements of the European and US American pharmacopoeias.

Potassium Chloride 99.9% KCl Ph. Eur., USP is of natural origin and has a particularly low content of secondary salts. It is produced in individual batches, analyzed and packaged separately from all other production equipment in dedicated areas. Each individual production phase is constantly monitored to meet our strict quality and safety standards our customers can rely on.

OUR DELIVERY RANGE

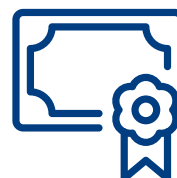
- 25 kg pharma bag (PE)
- 900-1.000 kg single-use FIBC/Big Bag with Inliner



Complies with the requirements of the **European (EP) and American (USP) Pharmacopoeias**



Produced compliant with the **EC GMP Guidelines and the ICH Q7**



CEP-Certificate



Kosher and halal certificates



FDA registered



US Drug Master File



K+S Minerals and Agriculture GmbH

Bertha-von-Suttner-Str. 7
34131 Kassel, Germany

☎ +49 561 9301-0
✉ pharma@k-plus-s.com

www.kpluss.com

A K+S Company

