



Calcium Chloride

PRODUCTION PLANTS

Engineering at service
of sustainability



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KERN SD

develops tailor-made on-site calcium chloride production facilities to meet the technical and economical needs of customers.

KERN SD plants are fully customizable in terms of production.

1) Overall process reaction is (limestone with hydrochloric acid):



2) Overall process reaction is (calcium carbonate with sodium chloride brine):



- KERN SD has **innovative technologies** for the production of **Calcium Chloride** by the following methods: [1] treatment of limestone (calcium carbonate) / calcium oxide (lime) with hydrochloric acid (high purity); [2] treatment of calcium carbonate with sodium chloride brine (low yield).
- Plants designed and developed by KERN SD use safe, environmentally friendly and highly competitive technology due to their low investment and low operating costs (high electrical efficiency and degree of automation).
- KERN SD technology complies with the **EU Best Available Technologies (BAT) Directives** for the production of chlor-alkali (Directive 2010/75/EU).

TECHNICAL SPECIFICATIONS OF THE PRODUCT (CaCl₂)

Appearance	Solid white or colourless
Melting point	772 °C (1.045K)
Boiling point	1.935 °C (2.208K)
Density	2,15 g/cm ³
Molar Mass	111 g/mol
Water solubility	74,5 g/100 ml (20 °C)



Calcium Chloride Production Plants

PLANT FEATURES

Output	Tailored to customer needs (<u>final product</u> : in solution or flakes)
Flexibility	50-100%
Concentration	35%
Materials	Built with high quality materials
Monitoring	Fully automated and monitored plants

- ON-SITE PRODUCTION
- FIXED PLANTS
- MODULAR AND SCALABLE
- AUTOMATIC CONTROL
- SAFE OPERATION
- ECONOMIC SAVINGS (low operating and maintenance costs)
- HIGH ENERGY EFFICIENCY
- SIGNIFICANT REDUCTION of associated storage, handling and road transport risks
- HIGH PURITY PRODUCT
- NO ENVIRONMENTAL IMPACT

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SOME APPLICATIONS

OF CALCIUM CHLORIDE

- **Construction sector** - accelerates the setting of concrete, absorbs humidity from the environment
- **Swimming pool maintenance** - helps to adjust water hardness and keep pH stable
- **Pharmaceutical sector** - to treat mineral salt deficiencies and address certain cardiac problems
- **Food industry** - improves consistency and fermentation processes
- **Chemical industry** - source of calcium for the production of calcium salts
- **Oil & gas sector** - 'bridging agent' in drilling fluids