



40% Ferric Chloride

PRODUCTION PLANTS

Engineering at service
of sustainability



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KERN SD

develops tailor-made on-site ferric chloride production facilities to meet customers' technical and economical needs.

KERN SD plants are fully customizable in terms of production.

- 1) Overall process reaction (heating iron with chlorine):



- 2) Overall process reaction (by introducing iron oxides into a hydrochloric acid solution):



- KERN SD has **innovative technologies** for the production of **Ferric Chloride** from iron and chlorine gas or iron oxides, hydrochloric acid and chlorine gas.
- 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 (FeCl₃)

Appearance	Dark green (glass)
Melting point	260 °C (553K)
Boiling point	315 °C (588K)
Density	1,4 - 1,5 g/cm ³
Molar Mass	162,2 g/mol (anhydrous)
Water solubility	92 g/100 ml (20 °C)



PLANT FEATURES

Output	Tailored to customer needs
Flexibility	50-100%
Concentration	40%
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 FERRIC CHLORIDE

- **Water treatment and purification**
- **Waste water treatment**
- **Electronics industry** - printed circuit boards
- **Manufacture of dyes, pigments and inks**
- **Mining industry** - metal pickling, copper leaching
- **Oil and fat refining**
- **Oxidising agent in organic industry**