



Aluminium Chlorohydrate (ACH)

PRODUCTION PLANTS

Engineering at service
of sustainability



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KERN SD

develops on-site aluminium chlorohydrate production facilities tailored to meet customers' technical and economic needs.

KERN SD plants are fully customizable in terms of production.

- KERN SD has innovative technologies for the production of ACH, based on different process routes that allow the use of aluminium, in the form of granules or ingots, hydrochloric acid (HCl), aluminium chloride (AlCl₃), or PAC, depending on the available raw materials and the required product specifications. The reaction is carried out in batch, in reactors manufactured from high chemical-resistance materials, such as glass-lined steel or high-grade glass-reinforced plastic (FRP). Once the reaction is completed, the product is discharged and filtered to remove unreacted aluminium/alumina and other insoluble materials, and finally, the clarified product is transferred to storage tanks.
- 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 (Al_n(OH)_mCl_(3n-m)·H₂O)

Appearance	Light or dark amber
Melting point	-15° C
Boiling point	100 - 110 °C
Density	1,33 -1,35 g/cm ³
Molar Mass	210,48 g/mol
Water solubility	Easy



Aluminium Chlorohydrate (ACH) Production Plants

PLANT FEATURES

Output	Tailored to customer needs
Flexibility	50-100%
Concentration	23-24%
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 ALUMINIUM CHLOROHYDRATE

Aluminium Chlorohydrate is used as a coagulant - flocculant in clarification for high turbidity conditions without lowering the pH of the water :

- **Drinking water treatment**
- **Industrial waste water treatment**
- **Cosmetics**
- **Oil industry**
- **Paper industry for the gluing process**
- **Swimming pools**