



Sodium Chlorite

PRODUCTION PLANTS

Engineering at service
of sustainability



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KERN SD

develops on-site sodium chlorite production facilities tailored to meet the technical and economic needs of customers.

KERN SD plants are fully customizable in terms of production.

The overall reactions of the process are :

- By reduction of sodium chlorate (NaClO_3) in an acidic solution with an appropriate reducing agent $\rightarrow \text{ClO}_2$
- Subsequently ClO_2 is absorbed in an alkaline solution and reduced with hydrogen peroxide (H_2O_2) $\rightarrow$ **Sodium Chlorite (NaClO_2)**

- KERN SD has an **innovative technology** for the production of **Sodium Chlorite (NaClO_2)** in a 25%/30% solution from sodium chlorate.
- 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 (NaClO_2)

Appearance	Solid white
Melting point	170 °C
Boiling point	1.461 °C
Density	2,5 g/cm ³
Molar Mass	90,44 g/mol (anhydrous)
Water solubility	39 g/100 ml (17 °C)



Sodium Chlorite Production Plants

PLANT FEATURES

Output	Tailored to customer needs
Flexibility	50-100%
Concentration	25% / 30%
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 SODIUM CHLORITE

- **Water purification** - used in municipal water treatment plants. An advantage of this application is that it does not generate trihalomethanes.
- **Industrial and waste water treatment**
- **Bleaching of fibres in the paper industry**
- **Disinfectant in processes in the food industry (food and beverage), processing of slaughterhouse waste to reduce odour...**
- **Laboratory reagents**