



PRODUCTION OF CALCIUM HYPOCHLORITE

Solutions for the production of calcium hypochlorite

KERN S&D, S.L. develops 70% calcium hypochlorite production facilities from chlorine gas and calcium hydroxide. KERN S&D systems are fully customizable in terms of production.

The overall reaction of the process is:



| TECHNICAL SPECIFICATIONS | |
|--------------------------------------|------------------------|
| Appearance | White |
| Melting point | 100 °C |
| Boiling point | 175 ° C |
| Density | 2,35 g/cm ³ |
| Molar Mass | 142.98 gr/mol |
| Water solubility | 21 gr/100 ml at 25°C |
| Formats | |
| Granular powder and/or tablets | |
| Monitoring | |
| Fully automated and monitored plants | |
| Output | |
| According to the needs of the client | |

- HIGH RELIABILITY
- EASY TO MAINTAIN
- AUTOMATIC CONTROL
- SAFE OPERATION
- NO ENVIRONMENTAL IMPACT
- MODULAR AND SCALABLE
- ECONOMIC SAVING (low operating & maintenance costs)
- HIGH ENERGY EFFICIENCY
- SIGNIFICANT REDUCTION in the associated risks of storage, handling and road transport

| PLANT FEATURES | |
|----------------|-----------------------------------|
| Output | 1,500 to 10,000 t/year |
| Flexibility | 50-100% |
| Concentration | 65-70% |
| Quality | Suitable for water treatment |
| Raw Materias | Chlorine / calcium hydroxide |
| Materials | Built with high quality materials |

The exclusive technical features of this system make it suitable for a wide range of applications:

| Wide range of applications | | | |
|-------------------------------|--------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water treatment | Sewage water | Waters of recreation | <ul style="list-style-type: none"> <input type="checkbox"/> Quemical <input type="checkbox"/> Industrial <input type="checkbox"/> Stationer <input type="checkbox"/> Textile <input type="checkbox"/> Agroindustrial <input type="checkbox"/> Hotelier <input type="checkbox"/> Hospitaller <input type="checkbox"/> Food sector <input type="checkbox"/> Agrobusiness <input type="checkbox"/> Oil & Gas <input type="checkbox"/> |
| Disinfection of waters | | | |

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Calcium hypochlorite production technology

KERN has an innovative technology of production of calcium hypochlorite from chlorine gas, generated in a bipolar membrane electrolyzer (does not contain mercury) and lime (calcium hydroxide).

Plants designed and developed by KERN S&D, use a safe technology, respectful with the environment and highly competitive for its low investment and low operative costs (high electrical efficiency and degree of automation).

KERN S&D technology fulfills the Community Directives on the Best Available Technologies (BAT) for the production of chlor-alkali (Directive 2010/75/UE).



Electrolytic cell

Properties

Calcium hypochlorite also called "chlorinated lime" is a chemical compound whose formula is $\text{Ca}(\text{ClO})_2$.

The calcium hypochlorite has the advantage of being stable in concentration and chlorine content available over time, as well as easy storage.

Store in dry and ventilated places

Uses of calcium hypochlorite

- It is widely used in water treatment due to its high efficiency against bacteria, algae, molds, fungi and dangerous microorganisms to human health.
- It is a bleaching agent, due to its high chlorine content.
- Due to its high content of free chlorine, it is used particularly as a disinfecting agent of water for swimming pools, drinking water, paper industry, poultry industry, fish farming and any other process in the annihilation of pathogenic products, such as: viruses, fungi and bacteria, as well as for the prevention of water-borne diseases.
- WHO recommends the use of calcium hypochlorite as an effective solution for disinfection and maintenance of water quality.