CALCIUM HYPOCHLORITE PRODUCTION

Solutions for the production ‘in situ’ of calcium hypochlorite

100% Customisable

KERN S&D, S.L. develops tailor-made solutions for the production “in situ” of 70% calcium hypochlorite from chlorine gas and sodium hydroxide. KERN S&D systems are fully customisable in terms of production and concentration.

The overall reaction of the process is:

\[
\text{Ca(OH)}_2 + 2 \text{NaOH} + 2 \text{Cl}_2 \rightarrow \text{Ca(ClO)}_2 + 2 \text{NaCl} + \text{H}_2\text{O}
\]

TECHNICAL SPECIFICATIONS

| Appearance | White |
| Melting point | 100 °C |
| Boiling point | 175 °C |
| Density | 2,350 Kg/m³ |
| Molar mass | 142.98 gr/mol |
| Water solubility | 21 gr/100 ml a 25°C |
| Flexibility | 60-100% |

Formats
- Granular powder and/or tablets
- Easy to store and transport
- Monitoring
- Fully automated and monitored plants
- Production
- According to customer needs

CONSUMPTIONS

- Chlorine (100%) 1,130 Kg/T Ca(ClO)₂ 70%
- Caustic soda (100%) 596 Kg/T Ca(ClO)₂ 70%
- Calcium hydroxide (100%) 629 Kg/T Ca(ClO)₂ 70%
- Energy 2,278 kWh/T Ca(ClO)₂ 70%
- Steam 826 Kg/T Ca(ClO)₂ 70%

HIGHLY RELIABLE

EASY MAINTENANCE

AUTOMATIC CONTROL

SAFE OPERATION

ENVIRONMENTALLY NEUTRAL

MODULAR AND SCALABLE

TURN-KEY SOLUTIONS

Unique technical characteristics make it suitable for a wide range of applications:

Multiple Applications

- Purification
- Waste water
- Swimming pools
- Water treatment
- Chemical
- Industrial
- Paper
- Textile
- Farming
- Hotels
- Hospitals
- Food
- Agriculture
- Oil & Gas
- …

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CALCium HYPOCHLORite PRODUCTION

‘In situ’ Clacium Hypochlorite Production Technology

KERN S&D has an innovative technology for the production ‘in situ’ of calcium hypochlorite from chlorine gas, generated in a bipolar membrane electrolyzer (mercury-free), and lime (calcium hydroxide).

Calcium hypochlorite production plants designed and developed by KERN S&D are safe, environmentally neutral and highly competitive because of their low investment required and low operational costs (high electrical efficiency and high level of automation).


Properties and Uses of Calcium Hypochlorite

Properties

Calcium hypochlorite, also called “chlorine lime”, is a chemical compound with the formula Ca(ClO)₂.

Calcium Hypochlorite has the advantage of being stable in concentration and chlorine available content over time, in addition to easy storage.

It can be stored in dry and ventilated places.

Uses

It is widely used in water treatment because of its high effectiveness against bacteria, algae, mold, fungi and microorganisms, which are dangerous to human health. It is also a bleaching agent.

It is used as a disinfectant agent for water in swimming pools, hospitals..., mainly in concentrations of 70%.

The World Health Organization (WHO) recommends the use of calcium hypochlorite as an effective solution for the disinfection and maintenance of water quality.