

CALCIUM CHLORIDE

Description

Calcium Chloride (CaCl_2) is a white or off-white odorless powder with a high purity of 93 – 97 %wt. It is an inorganic salt highly soluble in water. CaCl_2 is hygroscopic in nature and it is recommended to be packaged in sealed containers and stored in low humidity conditions whenever possible.

Dissolution of CaCl_2 in water is an exothermic reaction and it can produce extensive temperature increase, especially at high concentrations.

Commonly, this product is used as brine for refrigeration plants, ice and dust control on roads, in construction and oil and gas industry.

Applications

Calcium Chloride is often used as a soluble weighting agent in WBM and as a source of calcium ion in calcium inhibitive muds. In invert emulsions (OBM/SBM), it is used to lower the activity of the water phase.

CaCl_2 is also used in completion or workover fluids to increase fluid density and inhibit the clay present in reservoir formations. The highest density achievable with CaCl_2 in solution is 11.6 ppg (1,390 kg/m^3).

Features and Benefits

- Readily soluble in water and easily mixed through the hopper.
- Can provide densities up to 11.6 ppg (1,390 kg/m^3) in aqueous solutions.
- Effective product for reducing the water activity in OBM/SBM.
- Provides shale/clay inhibition.

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Typical Properties

Appearance	Powder
Color	White
Specific Gravity	1.9 -2.1
Purity	93% min
Solubility in water	74.5 g/100 ml (20 °C)

Recommended Treatment

Concentration of CaCl_2 to be used for drilling fluids will depend on the specific use: density, water activity or calcium ion concentration.

Care needs to be taken when mixing this product in water due to its highly exothermic reaction. Follow the recommended storage and handling instructions as Calcium Chloride is hygroscopic and it absorbs water from the atmosphere.

Safety and Handling

Prior to using this product, refer to the safety data sheet for information on use of personal protective equipment, safe handling, storage, transport, and disposal.

Packaging

CaCl_2 is packaged in 50 lb (22.7 kg), 55 lb (25 kg) bags or 1 MT sacks.