

Description

GYPSUM is high-purity calcium sulfate dihydrate (CaSO₄·2H₂O) powder.

Typical Properties

Appearance : Off-white powder
pH (1% solution) : 7.0 - 7.5
Specific Gravity : 2.3

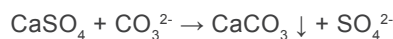
Features and Benefits

GYPSUM is an economical source of calcium to prepare gypsum-base drilling fluids.

GYPSUM acts as shale inhibitor by maintaining high level of soluble calcium in fresh water systems.

GYPSUM is utilized to treat carbonate contamination in high pH water-base drilling fluids.

The reaction is as follows:



GYPSUM does not increase pH of the drilling fluid as is the case with lime.

The solubility of GYPSUM increases in salt water system.

GYPSUM becomes less soluble as pH of the system increases.

Application

GYPSUM is used as a calcium source for gypsum/ ligno-sulfonate and polymer fluids.

GYPSUM is also added to treat carbonate contamination in high pH systems.

Limitations

GYPSUM is not suitable for treatment of carbonate contamination in low pH systems.

Treatment

In removal of carbonate contamination amount of GYPSUM required is calculated as follows:

$$\text{Gypsum (lb/bbl)} = 0.001 \times F_w \times \text{CO}_3^{2-} \text{ (mg/l)}$$

Where F_w is water fraction in the fluid.

In gypsum-base drilling fluid formulation, GYPSUM concentration ranges from 3.0 to 7.0 lb/bbl (8.6 to 20 kg/m³).

Packaging

GYPSUM is supplied in 25 kg (55 lb) multi-wall paper sacks.