

BARITE

INCREASE MUD DENSITIES

Barite (ground barium sulphate — $BaSO_4$) in its pure form is chemically inert in fresh water and oil based drilling fluids. It can be used to increase mud densities to as high as 2400 kg/m³.

Barite increases the hydrostatic pressure of the drilling mud allowing it to compensate for high-pressure zones experienced during drilling. The softness of the mineral also prevents it from damaging drilling tools during drilling and enables it to serve as a lubricant.

API SPECIFICATIONS

Wet Screen Analysis:

- 3% residue (max) on US Sieve #200 (74 microns)
- 5% residue (max) on US Sieve #325 (44 microns)
- Soluble Alkaline Earths as Calcium: 250 mg/L (max)

PHYSICAL PROPERTIES:

Appearance: Grey-white powder

Specific Gravity: 4.2-4.4

Moisture Content: 1580°C

CHEMICAL PROPERTIES:

Type: Inorganic barium salt

Solubility: Insoluble (water, oil)

pH: 7.0-9.5

MIXING & HANDLING

Barite can be mixed through the mud hopper as rapidly as needed. When large quantities are added to a mud system it may be necessary to add water to prevent mud dehydration.

WHMIS: Not controlled

TDG: Not regulated

Packaging: 40 kg sack

APPLICATION

To calculate the amount of **Barite** required to raise the weight use the following formula:

$$\text{Barite kg/m}^3 = \frac{4200 (W2-W1)}{4200-W2}$$

where W1 = present mud weight in kg/m³
where W2 = desired mud weight in kg/m³

Every 100 sacks of **Barite** added will increase the volume of the system by one cubic metre.

