

BARITE (M-I BAR)

BARITE (M-I BAR) weight material is a high-quality, drilling-grade barite (barium sulphate) used to increase the density of drilling fluids.

This high-specific-gravity mineral is the most widely used weight material, has application in all drilling fluid systems and meets all API specifications for barite

M-I BAR can be used to increase the density of any mud system. Mud weights up to 20 lb/gal (2.40 SG) can be achieved in most drilling fluids while still maintaining good flow properties. M-I BAR is also excellent in formulating special kill fluids and barite plugs that often reach 22 lb/gal (2.64 SG) for well control procedures.

Typical Physical Properties

Physical appearance: Powder, various light colours; grey, pink, tan

Bulk density: 107 – 135 lb/ft³ (1,714 – 2,162 kg/m³)

API Specifications

Specific gravity: 4.20 g/cm³, min.

Soluble hardness (as calcium): 250 mg/kg, max.

Particles >75 micron (wet screen): 3% wt, max.

Particles <6 micron (sedimentation): 30% wt, max.

Application

The amount of M-I BAR required to increase the density can be calculated with the following formulas:

$$\text{M-I BAR, lb/bbl} = 1,470 (w2 - w1) / (35 - w2)$$

Where:

w1 = Initial mud weight in lb/gal

w2 = Desired mud weight in lb/gal

$$\text{M-I BAR, kg/m}^3 = 4,200 (w2-w1) / (4.2-w2)$$

Where:

w1 = Initial mud weight in

specific gravity

w2 = Desired mud weight in specific gravity

An increase in volume of approximately 1.4 bbl/ton (0.25 m³/tonne) can be expected from M-I BAR additions.

Density increases may require water or base liquid dilution sufficient to wet the surfaces of the added barite adequately

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Advantages

- Essentially chemically inert and insoluble — functions only in a physical manner.
- Does not react with other drilling fluid additives or interfere with their function.
- Minimally abrasive.

Toxicity and Handling

Bioassay information is available upon request.

Handle as an industrial chemical, wearing protective equipment and observing the precautions described in the Material Safety Data Sheet (MSDS).

Packaging and Storage

BARITE (M-I BAR) is packaged in 100 lb multi-wall, paper sacks; 1000 kg, 1500 kg big bags and is available in bulk.

BARITE (M-I Bar) should be kept as dry as possible

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