

## Lignite

Lignite is a naturally occurring material used to reduce fluid loss and deflocculate water base muds. Lignite is a partially soluble additive which provides thin, low permeability filter cakes. It is an excellent emulsifier for oil in water emulsions as well as a secondary deflocculant and is especially effective in high temperature applications. It performs exceptionally well in dispersed systems as a synergistic additive with lignosulfonates. It can be used in virtually any water base fluid.

## Characteristics & Property

Physical Appearance	Black
Powder Specific Gravity	1.6 - 1.8
pH (1% solution)	4 - 5
Bulk Density	52 lb/ft <sup>3</sup> (833 kg/m <sup>3</sup> )
Typical Grind	90 - 95% <20 Mesh

## Applications

Lignite additive can be used for rheology and filtration control in all water base muds. It is especially effective in stabilizing the properties of muds exposed to high temperatures and contaminants such as CO<sub>2</sub> and calcium. Lignite additive is especially effective when treating cement contamination. It reduces the high viscosity and pH of cement contaminated muds and reacts with calcium to lessen the contaminating effects.

Normal treatments of lignite range from 1 to 8 lb/bbl (2.85 to 22.8 kg/m<sup>3</sup>). Due to their low pH, lignite treatments require additional caustic soda or an alternative alkaline material, to maintain a consistent pH. A normal ratio is one sack of caustic soda for every four sacks of lignite. In high salinity systems, it is preferable to pre-mix the lignite in medium pH freshwater to enhance dispersibility then add the pre-mix to the active system. It is most effective in mud systems with an alkaline pH in the range of 9 to 11.

## Advantage

- Provides improved filtration control
- Reduces viscosity and gel strengths
- Significantly extends the temperature stability of water base fluids
- Resists the effects of contamination
- Improves filter cake quality by reducing its thickness and permeability
- Reduces wall sticking tendencies
- Stabilizes rheological properties
- Compatible with a wide range of water base systems
- Especially effective when treating cement contamination

## Limitations

Less effective at pH levels below 9.5

## Toxicity & Handling

Bioassay information is available upon request. Handle as an industrial chemical, wearing protective equipment and observing the precautions as described on the Transportation and Material Safety Data Sheet (MSDS).

## Packing & Storage

Ferrochrome Lignosulfonate is packaged in 50-lb (22.7-kg), multi-wall, paper sacks. Store in a dry, well ventilated area. Keep container closed. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink wrapping and/or stacking.