

ULTRAFREE

Water-based mud ROP enhancer

APPLICATIONS

- Shale drilling
- Offshore and onshore

BENEFITS

- Increases ROP while drilling shales
- Improves bit life, reducing the number of trips
- Reduces torque and drag
- Improves mud filtercake quality and lowers fluid-loss values

FEATURES

- Works well with high-performance PDC bits
- Contains surface-active, metal-wetting agents that reduce the potential for bit and BHA balling

The ULTRAFREE* water-based mud ROP enhancer is specifically designed to improve ROP in ULTRADRIL* high-performance water-based drilling fluid systems, especially when run with PDC bits drilling through medium to hard shales.

The ULTRAFREE enhancer employs a special blend of surface active agents to keep the bit free of solids. It also assists in removing any buildup of drill solids below the bit, enabling the cutters to make continuous contact with the formation. The ULTRAFREE enhancer not only reduces bit and BHA balling, but also lowers torque and drag.

Applications

For ROP enhancement, 1–3% by volume of the ULTRAFREE enhancer should be added directly to the mud system at or near the pump suction over one circulation period. Ideally, the initial treatment should be made prior to drilling out of the casing shoe or after a trip and before entering the hole while the bit and BHA are clean. After the initial treatment, the product should be continually added or injected into the mud stream at the pump suction while the bit is drilling. The injection rate will vary according to hole size, pump rate, dilution rates, and ROP.

ULTRAFREE enhancer concentrations of up to 7% by volume will not affect drilling fluid properties or environmental toxicity.

Limitations

High-solids and weighted fluids above 14 lbm/galUS [1,678 kg/m³] may develop slightly higher viscosities and gels. Optimum performance may not be realized if the material is not added continuously in sufficient concentration while drilling. Some mud fluorescence may be noted at high product concentrations. Some materials containing asphaltite or asphalts may partially solubilize in the presence of the ULTRAFREE enhancer, which may promote sheening of offshore discharges.

The ULTRAFREE enhancer should not be added to dilution premix, which does not contain the DUO-VIS* biopolymer viscosifier; it may cause foaming or emulsion.

Toxicity and Handling

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

Packaging and Storage

The ULTRAFREE enhancer is packaged in 55-galUS [208-L] drums. It is also available in bulk. Store in a dry, well-ventilated area. Keep container closed. Keep away from heat, sparks, and flames. Store away from incompatibles.

Typical Physical Properties

Physical appearance	Yellow to brown liquid
Odor	Hydrocarbon-like
Specific gravity	0.78–0.85 sg
Solubility (water)	Insoluble
Flash point	>201 degF [>94 degC]