

Product Description

Shale inhibitor is a partially water soluble, water dispersible blend, containing sulfonated organic resins for water-base muds. It is used to aid in stabilizing shale sections, controlling solids dispersion and improving wall cake characteristics. Being partially soluble, SHALL INHIBITOR has the capability of plugging micro-fractured shales and sealing shales so that the hydrostatic over-balance from the fluid column is not transmitted to the pore pressure network of shale formations adjacent to the wellbore.

Physical Property & Specificatoin

Properties	Value
Physical Appearance	Black to Brown Powder
Specific Gravity	1.2 - 1.5
pH (2% solution)	9.1 - 9.5

Applications

Shall Inhibitor can be used in most waterbase muds. It is a free-flowing powder and can be added directly to the mud system through the mixing hopper. Unlike other shale control additives, it is not necessary to premix SHALL INHIBITOR with oil and it contains no surfactants. Normal concentrations of SHALL INHIBITOR range from 4 to 10 lb/bbl (11.4 to 28.5 kg/m³) for most applications.

Advantage

- Plugging micro-fractures and sealing shales.
- Inhibiting swelling and water wetting of shales.
- Reducing torque and drag.
- Improving filter cake quality.
- Reducing High-Temperature, High-Pressure (HTHP) fluid loss.

Limitations

Triaxial testing was done by an independent laboratory to investigate the inhibitive effects of muds containing Shall Inhibitor. Figures 1 and 2 provide comparative results of triaxial testing done on a Golodrina shale with a simple bentonite/ Polyanionic Cellulose (PAC) system. With Shall Inhibitor the time-to-failure and the erosion rate were better than with standard sulfonated asphalt. Figures 3 and 4 demonstrate the same trend on Pierre shale with both a lignosulfonate and a Partially Hydrolyzed Polyacrylamide (PHPA) -base mud. In these tests the cores were exposed to the circulating fluid for only 100 minutes so that the erosion rate could be measured prior to core failure.

Figure 5 demonstrates Shall Inhibitor's ability to reduce the HTHP fluid loss. Shall Inhibitor is roughly equivalent to standard sulfonated asphalt for reducing HTHP fluid loss. Figure 6 demonstrates Shall Inhibitor's ability to improve lubricity by reducing the coefficient of friction in a simple bentonite slurry.

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

Shale inhibitor is packaged in 50-lb (22.7-kg), multi-wall, paper sacks. Store in a dry location away from sources of heat or ignition, and minimize dust. This material is supplied solely for informational purposes and UNIVERSAL makes no guarantees or warranties, either expressed or implied, with respect to the accuracy or use of this data. All product warranties and guarantees shall be governed by the Standard Terms of Sale.