



Drilling Fluids, Inc.

Viscosifiers

LP-701

Description

LP-701 is a liquid emulsion of high-molecular-weight, partially hydrolyzed polyacrylamide (PHPA) dispersed in a mineral oil.

Uses

LP-701 is designed to provide shale stability, clay inhibition, friction reduction, and a quick source of viscosity in water base drilling fluids. LP-701 can be used as a selective flocculant in non-dispersed drilling fluid systems while providing additional viscosity to aid in hole cleaning.

Benefits

LP-701 can be used in freshwater, seawater, and sodium or potassium chloride brines. However, the viscosity of the polymer chain is reduced with increasing chloride concentration. LP-701 can also be used to aid in the preparation of stable foams for foam drilling applications.

Treatment

LP-701 is used in concentrations of 0.02 to 0.22 gal/bbl of drilling fluid. A concentration of 0.1 gal/bbl is normally recommended unless experience in the area indicates a lower or higher concentration is required. A full PHPA system may be formulated using DP-701 (a dry version of the same polymer) in a concentration of 1.0-2.0 ppb. This creates an inhibitive mud system.

LP-701 may be added to the drilling fluid system through the mud hopper, the mud pump suction, or directly into the drill pipe during connections. If selective flocculation is desired, LP-701 may be added directly to the flowline or areas of agitation in the working pits.

Function

LP-701 functions as a borehole stabilizer by inhibiting the disintegration and dispersion of hydratable and dispersible shales. The long chain polymer has negatively charged sites, which are attracted to the positive charges on clays. Large clay solids are encapsulated by a number of polymer chains. Small particles, less than 1.0 micron, are flocculated. This occurs when one polymer chain attracts several clay particles.



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LP-701 (continued)

Typical Physical Properties

Physical Appearance.....opaque liquid
Density at 60°F.....8.9 lb/gal
pH in water..... 6 to 8
Flash point (ASTM D56)..... 2000°F
Pour point.....-20°F

Equivalent Concentrations of Liquid Polymer

<u>Pounds Per Barrel (ppb)</u>	<u>gal/100 bbl</u>
.25	2.8
.50	5.6
.75	8.4
1.0	11.0
1.5	17.0

Safe Handling Recommendations

Utilize normal precautions for employee protection when handling chemical products. Use of appropriate respirator, gloves, goggles, and apron is recommended for employee comfort and protection. Do not reuse empty containers. See Material Safety Data Sheet (MSDS) for this product prior to use.

Packaging

LP-701 is packaged in 5 gal nonreturnable pails.