PRODUCT BULLETIN

NewStabil™

Fluid Stabilizer

NEWPARK DRILLING FLUIDS
www.newparkdf.com

Description

NewStabil™ fluid stabilizer controls alkalinity in brine systems and extends the temperature stability of drilling fluid systems containing polymers derived from natural sources.

Benefits

The alkalinity provided by NewStabil fluid stabilizer is less variable and less hazardous than that of caustic soda. It is particularly effective in the presence of hardness from soluble calcium and magnesium. NewStabil additions also extend the temperature range of all naturally derived polymers, allowing a stable drilling fluid at higher downhole temperatures and reducing polymer additions and costs.

Application

NewStabil fluid stabilizer combats oxidation and hydrolysis, the two primary mechanisms of polymer degradation. Polymeric oxidation is caused by heavy metals and oxygen dissolved in the drilling fluid. The NewStabil molecule reacts with dissolved oxygen and heavy metals, preventing oxidation of the naturally derived polymers. Hydrolysis is prevented because the NewStabil molecule is mildly alkaline. It buffers the drilling fluid to a pH of 10-11, thereby minimizing polymeric hydrolysis.

NewStabil fluid stabilizer, therefore, has two primary applications:

- Providing alkalinity control, especially in high hardness brines containing divalent cations (Ca^{2+} and Mg^{2+}) and anytime caustic soda's safety risks are not acceptable or pH stability is desired.
- Extending a polymer's temperature limitation by up to 30°F (16.7°C) by inhibiting degradation when downhole temperatures promote hydrolysis and oxidation.

Treatment Recommendation

Initial treatments are best determined by pilot testing. For alkalinity control, routine additions to maintain pH at 10-11 are recommended. To prevent polymeric degradation, concentrations of 1.75-3.5 lb/bbl (5-10 kg/m^3) should be maintained, with additions made prior to trips and any other time downhole fluid temperatures are expected to rise. Lignite and lignosulfonate negate the temperature extension properties of this product.

Typical Physical Properties

Appearance	Clear liquid
Flash Point	198.5°F (92.5°C)
pH (50% solution)	12.1
Specific Gravity	1.0 - 1.2

Handling and Storage

Contact with iron can create an unstable compound. Avoid contact with eyes, skin, and lungs. Use chemical goggles. Store in a cool, dry, well-ventilated area. Use appropriate hygiene, clothing, and personal protective equipment suitable for work being done. Review the SDS thoroughly before using this product.

Packaging

NewStabil fluid stabilizer is available in 55-gallon (208-liter) drums.