LATIRATE rate of penetration enhancer and lubricant additive

Reduce friction and vibration and enhance drilling efficiency in directional and extended-reach wells

The Baker Hughes, a GE company (BHGE), LATIRATE™ rate of penetration (ROP) enhancer and lubricant reduces friction that causes torque and drag, improving sliding efficiency and penetration rates in directional and extended-reach wells.

Designed for water-based drilling fluids, the LATIRATE additive is easy to use. It is completely water dispersible, mixes readily in most muds, and can be easily applied to the mud system. The additive works effectively in low concentrations and is temperature stable with a low pour point of 1.4°F (-17°C).

The LATIRATE ROP enhancer may be used alone or as one of three core products that comprise the BHGE LATIDRILL™ high-performance water-based fluid system. Because the LATIDRILL system’s formulation uses fewer products, field personnel have the ability to quickly mix a robust fluid system with an improved rheological profile and easily maintainable, faster stabilizing properties.

Recommended treatment
For optimum performance, the LATIRATE ROP enhancer and lubricant additive should be used in water-based fluids at an initial concentration of 2 to 4% by volume. It can be added to the mud pit close to the agitator and suction line, or alternatively to the low-pressure side of the mud pump. Contact your BHGE representative for additional information.

Environmental information
For information concerning environmental regulations applicable to this product, contact the Health, Safety, and Environment department of BHGE.

Safe handling recommendations
Take normal precautions when handling and wear appropriate personal protective equipment. See the material safety data sheet before use.

Applications
- Horizontal, deviated, and extended-reach wells

Benefits
- Enhanced lubricity and reduced torque and drag
  - Increases drilling efficiency
  - Decreases nonproductive time
  - Enhances hole cleaning
  - Improves cuttings management, weight-on-bit, and directional control
  - Minimizes bit balling and accretion
- Efficient drilling enhancer chemistry
  - Disperses effectively in water-based fluid systems
  - Minimizes treatment time and costs
- Low pour point
  - Facilitates use in cold climates
- Works effectively with BHGE Talon™ high-efficiency PDC drill bits

bhge.com
Packaging
The LATIRATE ROP enhancer and lubricant is packaged in 55-gal nonreturnable drums.

Shipping
Transportation is not restricted by international or U.S. regulatory agencies.

Typical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Appearance</td>
<td>Clear to amber liquid</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>0.886</td>
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<tr>
<td>Flash Point, closed cup</td>
<td>190°F (87.8°C)</td>
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<tr>
<td>Viscosity @ 68°F (20°C)</td>
<td>53 cSt</td>
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