ROD EASE
Rod lubricant

APPLICATIONS
- Horizontal directional drilling
- Coring
- Rotary drilling

ADVANTAGES
- Reduces torque
- Prevents rust and scale
- Is environmentally safe
- Increases penetration rates
- Extends bit and mud motor life
- Increases mud motor efficiency
- Reduces wear on rods and equipment
- Maximizes rig potential and steering control
- Enhances the effectiveness of powdered drilling fluid additives

ROD EASE® rod lubricant is based on an environmentally safe technology that has proven effective in lubricating downhole consumables. This product has produced both bit life and penetration increases of more than 25% during drilling operations. Because the lubricant reduces torque and drag, the operator can use the drill rig to its full potential — meaning thrusts and pulls are at a minimum, and steering control is precise.

The lubricant mixes instantly and is not affected by water quality. For this product to deliver rod protection and reduce torque after drilling has started, consideration must be given to the number of rods and the amount of fluid in the hole. Treatment can require dosing the system with several pails of lubricant. Established maintenance levels are required after initial dosage and treatment. Normal treatment levels are 1 to 2 vol% or 1 to 2 pints [0.473 to 0.946 L] per 100 galUS [378.5 L] of drilling fluid. The dosage amount should be increased if the penetration rate decreases, torque increases, or the run length decreases (indicating poor cutting).

Tests performed in the M-I SWACO laboratory in Houston confirm the effects of ROD EASE lubricant.

Toxicity and handling
Bioassay information is available upon request. Handle as an industrial chemical, wearing protective equipment and observing the precautions described in the MSDS.

Packaging and storage

Typical Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical appearance</td>
<td>Dark brown liquid</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>0.887</td>
</tr>
<tr>
<td>pH</td>
<td>7.0–7.5</td>
</tr>
<tr>
<td>Boiling point</td>
<td>572 degF [300 degC]</td>
</tr>
<tr>
<td>Freezing point</td>
<td>0 degF [–18 degC]</td>
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<tr>
<td>Flash point</td>
<td>554 degF [290 degC]</td>
</tr>
</tbody>
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