EnduraTrol
Fluid loss control additive

APPLICATIONS
- Secondary filtration control in EnduraDril® inhibitive divalent water-based drilling fluid

ADVANTAGES
- Provides economical filtration control
- Tolerant to high levels of total hardness
- Does not adversely affect rheological properties
- Provides wellbore stability through filtration control

LIMITATIONS
- Subject to bacterial degradation unless the mud contains >175,000 mg/L chlorides or a pH >11.5
- Requires a biocide preservative or bactericide in conditions other than high chlorides or high pH
- Temperature limitation of up to 250 degF [121 degC]

EnduraTrol® fluid loss control additive is a nonionic natural polymer designed for use in the EnduraDril fluid, including high-salinity and high-hardness brines. EnduraTrol additive is an economical and effective filtration-control additive. Normal treatments range from 1 to 8 lbm/bbl [2.85 to 22.8 kg/m³], depending on the makeup-water chemistry and desired fluid loss. EnduraTrol additive has some benefits when used as a standalone filtration control additive but is most optimally used in conjunction with a primary fluid loss control additive. EnduraTrol additive can be subject to bacterial degradation; this can be mitigated with chlorides in excess of 175,000 mg/L and treatment with biocide.

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

Packaging and storage
EnduraTrol additive is packaged in 50-lb [22.7-kg] multiwall paper bags and palletized in accordance with the Schlumberger Group Chemical Products Packaging Guidelines. Keep away from open flames, hot surfaces, and sources of ignition. Keep containers tightly closed in a dry, cool, and well-ventilated place.

Typical Physical Properties

<table>
<thead>
<tr>
<th>Physical appearance</th>
<th>White powder</th>
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</thead>
<tbody>
<tr>
<td>Specific gravity</td>
<td>1.5</td>
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<tr>
<td>pH (1% solution)</td>
<td>5.6</td>
</tr>
<tr>
<td>Bulk density</td>
<td>35 lb/ft³ [560 kg/m³]</td>
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