CleanBore A
Surfactant

The CleanBore system consists of four fluids that help provide quick and effective cleanout of oil-based mud (OBM) so that perforating or production in completion operations can begin. The following fluids are used in the system:

- spacer pill
- gel pill
- brine pill
- solvent pill

CleanBore A surfactant is added to the spacer pill to enhance the cleanout of oil substrates through an ultra-low interfacial tension. The addition of the surfactant also helps prevent the formation of highly viscous emulsions that could affect fluid transport and increase pumping pressure.

Features
CleanBore A surfactant is nonionic and made from natural-based alcohols and starch. It is environmentally friendly and biodegradable. Because it does not have a cloud point, it can be used in wellbore temperature ranges from 80° to 400°F.

Benefits
When used with the CleanBore system, CleanBore A surfactant can provide the following benefits:

- It helps leave the pipe and formation in a water-wet condition.
- It is applicable over a wide temperature range.
- It is environmentally friendly.

CleanBore A Surfactant—Product Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Packaging</th>
<th>Form</th>
<th>pH</th>
<th>Specific Gravity</th>
<th>Flash Point</th>
<th>Pour Point</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5-gal can</td>
<td>light yellow liquid</td>
<td>8 to 10</td>
<td>1.100 lb/gal</td>
<td>&gt;212°F (-100°C)</td>
<td>-5°F (-20°C)</td>
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<tr>
<td>516.01170</td>
<td>52-gal drum</td>
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<td></td>
<td>9.16 lb/gal</td>
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<td>516.00932</td>
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