FR-46™ Friction Reducer

FR-46™ friction reducer is used for fresh water and light brines. FR-46 anionic, liquid friction reducer does not contain a hydrocarbon carrier fluid for delivery of the polymer. FR-46 friction reducer contains a new aqueous carrier fluid that is more environmentally friendly compared to oil-external emulsion type friction reducers.

Applications
FR-46 friction reducer is used to reduce pipe friction pressure while pumping water during hydraulic fracturing treatments. FR-46 friction reducer is designed to be used in either a continuous or a batch mix application. It can be used in fresh water and light brines. Higher concentrations of FR-46 friction reducer may be required in KCl or NaCl water.

Benefits
- FR-46 friction reducer is effective at low concentrations (0.5 to 2.0 gallons per 1,000 gallons).
- FR-46 friction reducer does not contain a hydrocarbon carrier fluid for delivery of the polymer.
- FR-46 friction reducer is a liquid, which is easier to mix than powdered materials.
- FR-46 friction reducer can be mixed on-the-fly and does not cause the lumping problems associated with powdered friction reducers.
- FR-46 friction reducer is anionic and is a very effective friction reducer in fresh water.

FR-46™ Friction Reducer—Product Specifications

<table>
<thead>
<tr>
<th>Part No. (sample)</th>
<th>101557951</th>
<th>Bulk Density</th>
<th>10.42 lb/gal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No. (55-gal drum)</td>
<td>101557953</td>
<td>pH</td>
<td>5.5 - 7.0</td>
</tr>
<tr>
<td>Part No. (330-gal tank)</td>
<td>101557954</td>
<td>Flash Point</td>
<td>&gt;200°F (&gt;93°C)</td>
</tr>
<tr>
<td>Form</td>
<td>White liquid</td>
<td>Specific Gravity</td>
<td>1.25</td>
</tr>
</tbody>
</table>
Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.