TECHNICAL BULLETIN

Patent pending product for the dissolution and removal of barium scale deposits

FQE® Barium-Clear will control scale in high temperature systems where polyphosphonates are not effective. This product may increase oil and gas production by removing scale that is restricting flow in the system.

Application

FQE Barium-Clear may be used in downhole or surface installations. Methods of suggested application include continuous treatment down the annulus or treating string of producing wells, with water flush and continuous injection into surface lines. It can also be used for formation squeeze treatment of oil wells.

Treatment

Downhole/Surface Facilities: An initial high dosage of FQE Barium-Clear at a concentration of 50-100 ppm (8-16 litres /1000 bbls) should be sufficient to remove scale build-up in the system depending on the severity of the scaling problem. A fill and soak or circulation method of application is recommended. The duration of contact with the scale deposits to be removed will depend on the scale composition and Barium Sulfate content. It should be used at full strength.

For oil well clean-outs, such as removing scale from the tubing, rods and pumps, at least 2 barrels is recommended. In water wells having high injection pressures as little as 1 barrel will obtain effective pressure drops. This is effective in stimulating oil well production by cleaning the formation around the well bore.

Product Data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk density</td>
<td>9.36 lb/gallon</td>
</tr>
<tr>
<td></td>
<td>1122 kg/m³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Complete in Water</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 200°F (93°C)</td>
</tr>
<tr>
<td>Approximate storage life</td>
<td>1 year</td>
</tr>
</tbody>
</table>

Standard Package

55 US gallons (208 litre) closed head poly drum, tote bin, or bulk.

Barium Scale Dissolution

1” of scale around the inside of a 4” pipe was reducing flow rate by 50%. Scale dissolved into liquid phase.

Flammability

Specific Hazards
Visit our website to access technical bulletins, white papers, videos and our extensive library of case histories.

**Case Histories**
Access a wide range of case histories to learn about the variety of applications our chemicals are utilized for.

fqechemicals.com/case-histories

**White Papers**
Our white papers provide deep insights into industry problems and how our innovative chemical products solve them.

fqechemicals.com/resources

**Video Library**
View videos from our lab where we have tested a range of client samples to show how effective our chemicals are.

fqechemicals.com/videos

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