Well Shut-in Inhibitors
Specialty Additives

Lubrizol’s Solution for Well Shut-in Protection
Adapting to slowing industry conditions may require operators to shut-in wells for a period of time. Treating these wells with inhibitors will help prevent the destructive corrosion that occurs on steel casing and tubing from exposure to residual water. Well shut-in protection saves operators time and money when the well is set to become operational again.

Used in combination, Lubrizol’s Alpha 3207 and IC 3 provide corrosion inhibition by providing a barrier to corrosive compounds and by removing oxygen that is dissolved in the water. Alpha 3207 and IC 3 are compatible with commonly used oilfield chemicals and readily available in convenient drum or tote packaging.

Product Application

Problem:
Corrosion discovered on casing after a disposal well was shut-in for eight months with no treatment prior to shut-in. Significant time and money was required to put the well back into use.

Solution:
Before shutting in a well for any length of time, pickle the well for protection. Preventative treatment may result in significant long term savings.

Application Guidelines:
1. Mix 5 to 8 gallons of Alpha 3207 in 100 gallons of water
2. Add 2 to 4 gallons of IC 3 to the same water
3. For added protection a biocide may be added to the water at a concentration of 200 ppm
4. Determine the amount of water to fill the casing and tubing
5. Pump the water down the tubing and casing

Contact your Lubrizol Account Representative for more information.

<table>
<thead>
<tr>
<th>Product</th>
<th>Chemical Type</th>
<th>Key Function</th>
<th>Application</th>
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</thead>
<tbody>
<tr>
<td>Alpha 3207</td>
<td>Blend of organic acid amine salts</td>
<td>Water-soluble corrosion inhibitor</td>
<td>For packer fluids and for water injection system surfactants, waterflood injection and disposal systems and water clarifiers</td>
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<tr>
<td>IC 3</td>
<td>Catalyzed ammonium bisulfate solution</td>
<td>Liquid oxygen scavenger</td>
<td>For packer fluids, water-based drilling fluids, water injection system surfactants, and water clarifiers</td>
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