ParaSorb Ultra Solid Paraffin Inhibitor

The Baker Hughes ParaSorb™ Ultra solid paraffin inhibitor is a high-strength controlled-release additive that slowly desorbs from the proppant pack to provide immediate and long-term protection against paraffin deposition. ParaSorb Ultra treatments minimize the risk of lost production and can significantly delay expensive interventions in deepwater and ultra-deepwater wells.

Like the Baker Hughes Sorb™ products, the Sorb™ Ultra family of products delivers multi-year inhibition. Unlike Sorb products, Sorb Ultra products withstand high closure pressures.

The Baker Hughes Sorb Ultra family of solid specialty chemicals safely and efficiently inhibits downhole deposition or tubular damage with slow-releasing and long-lasting chemicals that are adsorbed onto a solid substrate that is specially engineered for high-pressure deepwater environments and then pumped deep into the formation.

The amount of Sorb Ultra material added to the proppant is based on crush and conductivity tests done in preparation for the job, and on the desired life of the treatment. When the well begins to produce, the paraffin inhibitor slowly desorbs into the oil phase of the production, inhibiting paraffin deposition in the near-wellbore area and tubing. Because the product is dry and inert, it will not contribute to chemical runoff if spilled. This is environmentally preferable to conventional liquid additives or batch- and continuous-injection liquid chemical systems.

ParaSorb Ultra inhibitor is a Baker Hughes StimPlus™ services product and is compatible for use with common stimulation fluids. StimPlus products are added to the stimulation fluid and placed deep into the formation, where they can prevent deposition and costly production problems. Our service includes pre-stimulation system analysis, stimulation fluid compatibility, coordination with pressure pumping services, and post-frac monitoring services to minimize flow assurance issues and protect wellbore assets.

Technical Data

<table>
<thead>
<tr>
<th>Typical properties</th>
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<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Off-white to tan solid granules</td>
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<tr>
<td><strong>Odor</strong></td>
<td>Mild</td>
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</table>
| **Typical maximum temperature** | ParaSorb 5000: 400°F (204°C)  
ParaSorb 5005: 300°F (148°C) |
| **Specific gravity @ 60°F** | 2.4 to 2.7 g/cc |
| **Bulk density range**      | ParaSorb 5000: 90 to 110 lbm/ft³  
ParaSorb 5005: 95 to 115 lbm/ft³ |
| **Packaging**               | 50-lb bags, super sacks |

**Note:** Loading rates are based on expected production and desired longevity of treatment. Loadings greater than 20% by weight of proppant and at closure pressures greater than 15,000 psi should be approved by the technical department prior to application.

Applications

- Deepwater and ultra-deepwater oil and gas wells

Features and benefits

- **Reduced costs**
  - Reduces downtime caused by deposition in the near wellbore
  - Eliminates or reduces costly offshore interventions

- **Extended flow assurance**
  - Safely and efficiently inhibits downhole paraffin deposition with slow-release, long-lasting chemicals
  - Works on produced fluids before reaching the near-wellbore area
  - Includes monitoring using relative performance comparative methods

- **Comprehensive well protection**
  - Contains broad-use paraffin inhibitors

- **Simple application**
  - Permits multiple applications including gravel packs, frac packs or fractures in new or existing wells
  - Ensures reliable application in high-pressure deepwater environments with specially engineered solid substrate
  - Offers compatibility with most fracturing fluids, as determined by lab analysis

- **Qualified member of the SmartCare family of environmentally responsible solutions**
  - Minimizes environmental impact without sacrificing performance
  - Increases transparency of chemical composition to stakeholders
The ParaSorb Ultra inhibitor is a member of the Baker Hughes SmartCare™ family of environmentally responsible chemical solutions, which helps ensure that clients' technical performance and environmental priorities are achieved. Evaluated by the Baker Hughes Environmental Services Group’s chemical assessment review process, this product has been methodically vetted for health, safety, and environmental criteria, performance, consistency, compatibility, and value.

Safety Precautions
Refer to the safety data sheets (SDS) for handling, transport, environmental information, and first aid.