Capstone™ FS-31
Fluorosurfactant

Technical Information

Description
Capstone™ FS-31 is a nonionic fluorosurfactant that provides exceptionally low surface tension in aqueous- or solvent-based products, enabling better wetting, spreading, leveling, and other beneficial properties. FS-31 is VOC-free, APEO-free, and compatible with additives and resins of any ionic class.

Even at very low concentrations, FS-31 can deliver tremendous wetting power. FS-31 is stable in acidic, basic, brine, and hard water environments—making it easy to formulate into a variety of systems. FS-31 is effective as an additive in cleaning products, paints, coatings, adhesives, and films.

Applications

Water-Based Floor Care (Finishes, Waxes, and Polishes)
- Provides wetting and leveling
- Good re-wet characteristics in multi-coat applications
- Reduces cratering and provides faster spreading
- Compatible with hydrocarbon surfactants
- Suggested use rates are 0.01–0.05% active ingredient (A.I.)

Concentrated Cleaning Solutions
- Reduces surface tension and provides excellent wetting to achieve cleanability.
- Provides improved wetting and penetration, especially with difficult to wet soils
- Suggested use rates are 0.01–0.1% A.I.

Aqueous-Based Paints and Inks
- Excellent wetting and leveling, reduced orange peel effect, extends open time
- Compatible with most aqueous-based paints
- Improved wetting in wood coatings
- Suggested use rates are 0.01–0.1% A.I. in aqueous-based paints

Metals and Electronics
- Improved etching efficiency
- Effective plating bath aid
- Zinc battery scale inhibitor

Stability and Surface Activity in Brine and Aggressive (Acidic and Basic) Media

Typical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Light yellow to amber liquid</td>
</tr>
<tr>
<td>pH</td>
<td>7–8.5</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.1 g/mL</td>
</tr>
<tr>
<td>Stability</td>
<td>Freeze-thaw stable. Mix well before use. Product may undergo phase separation when stored for extended periods of time above 40 °C (104 °F). Product may be reconstituted by shaking or mixing of container below 40 °C (104 °F). Stable in brine and aggressive media.</td>
</tr>
<tr>
<td>Composition</td>
<td>25% solids</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>5 years</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Nonflammable</td>
</tr>
</tbody>
</table>
**Performance**

**Surface Tension**

![Capstone™ FS-31 Surface Tension Graph]

**Foaming**

- Low foamer

**Ross-Miles Foam Volume (mL) at 25 °C (77 °F)**

at 0.1% Active Ingredient (A.I.)

<table>
<thead>
<tr>
<th></th>
<th>Initial</th>
<th>5 min</th>
<th>10 min</th>
<th>15 min</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI Water</td>
<td>62</td>
<td>61</td>
<td>60</td>
<td>58</td>
</tr>
<tr>
<td>10% NaCl</td>
<td>33</td>
<td>30</td>
<td>29</td>
<td>29</td>
</tr>
</tbody>
</table>

**Capstone™ Repellents and Surfactants**

- Deliver more sustainable solutions with maximum performance
- Are in compliance with REACH requirements
- Are listed on TSCA inventory

For questions regarding technical data, commercialization, and sampling:

**Chemours Fluoroproducts**

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