Technical Data Sheet

ECOSURF™ EH-9 (90% Actives) Surfactant
Product Information

Chemical Description
Name: Alcohol Ethoxylate
Surfactant Type: Nonionic

Benefits
- Superior wetting
- Excellent oily soil removal
- Rapid dissolution & good rinseability
- Low odor

Applications
- Hard surface cleaners
- High performance cleaners
- Concentrates
- Paints & coatings

No gel range
- Outstanding formulation & handling properties
- Readily biodegradable
- Aquatic toxicity EC50 > 10 mg/L

Pulp & paper
- Textile
- Agrochemicals

Typical Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud Point (1)</td>
<td>64°C</td>
</tr>
<tr>
<td>HLB (2)</td>
<td>12.5</td>
</tr>
<tr>
<td>Moles EO</td>
<td>NA</td>
</tr>
<tr>
<td>Pour Point (3)</td>
<td>-5°C</td>
</tr>
<tr>
<td>Appearance</td>
<td>Pale yellow liquid</td>
</tr>
<tr>
<td>pH, 1% aq solution</td>
<td>6.2</td>
</tr>
<tr>
<td>Viscosity at 40°C (104°F), cSt</td>
<td>61.8</td>
</tr>
<tr>
<td>Density at 40°C (104°F), g/mL</td>
<td>1.0157</td>
</tr>
<tr>
<td>Flash Pt, Closed Cup, ASTM D93</td>
<td>288°C 550°F</td>
</tr>
</tbody>
</table>

(1) Cloud point: °C, 10 wt% actives aqueous solution
(2) HLB Range: <10 w/o emulsifier, > 10 o/w emulsifier, 10-15 good wetting, 12-15 detergents
(3) Pour point: °C

Typical Performance Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMC (4)</td>
<td>1066</td>
</tr>
<tr>
<td>Surface Tension (5)</td>
<td>31</td>
</tr>
</tbody>
</table>

(4) Critical micelle concentration: ppm at 25°C
(5) Surface tension: dynes/cm at 1% actives, 25°C

Solubility and Compatibility
- Soluble in water
- Soluble in chlorinated solvents and most polar organic solvents
- Chemically stable in the presence of dilute acids, bases and salts
- Compatible with anionic, cationic, and other nonionic surfactants
Contact information:
North America: 1-800-447-4369
Europe: (+32) 3-450-2240
Asia/Pacific: (+852) 2879 7339
Other areas: 1-989-832-1556
http://www.dow.com/surfactants

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