CONSUMER CAR WASH WITH A COCAMIDE DEA ALTERNATIVE

No. 1107

Description
This economy, consumer-type formulation contains Amine Oxide chemistry. It is designed for easy dilution and produces large amounts of foam.

Formulation

<table>
<thead>
<tr>
<th>INGREDIENTS</th>
<th>% by Weight</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized Water</td>
<td>q.s. to 100.0</td>
<td>Carrier</td>
</tr>
<tr>
<td>Sodium Hydroxide, 50% solution</td>
<td>2.7</td>
<td>Neutralizer</td>
</tr>
<tr>
<td>BIO-SOFT® S-101</td>
<td>10.3</td>
<td>Primary Surfactant</td>
</tr>
<tr>
<td>AMMONYX® CDO SPECIAL</td>
<td>5.0</td>
<td>Secondary Surfactant</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>0.5</td>
<td>Thickener</td>
</tr>
<tr>
<td>Dye</td>
<td>q.s.</td>
<td>Additive</td>
</tr>
<tr>
<td>Fragrance</td>
<td>q.s.</td>
<td>Additive</td>
</tr>
<tr>
<td>Preservative</td>
<td>q.s.</td>
<td>Additive</td>
</tr>
</tbody>
</table>

Total 100.0

Procedure
1. Add Deionized Water, Sodium Hydroxide, and BIO-SOFT® S-101 with mixing.
2. Adjust pH to 7.0–7.5 with additional BIO-SOFT® S-101 or Sodium Hydroxide. Allow solution to mix and the pH to stabilize.
3. Add AMMONYX® CDO SPECIAL, followed by Sodium Chloride, and mix until clear.
4. Add Preservative, Dye, and Fragrance. Mix until homogeneous.

Physical Properties
- Appearance at 25°C: Clear liquid
- pH, as is concentrate: 8.0
- Viscosity at 25°C, cps: 1,000
- Solids, %: 13.8
- VOC (calculated), %: 0

Storage/Stability
- 1 Month at 4°C: Stable
- 1 Month at 25°C: Stable
- 1 Month at 50°C: Stable
- Freeze/Thaw, 3 Cycles: Stable

Instructions for Use
Dilute 1 ounce to 1 gallon of water (1:128). Mix and apply using a sponge. Rinse and dry the car surface.

External Comment
Marketing Notes: When used as per Stepan's recommendation, this formulation is VOC-compliant with U.S. Federal and California Air Resource Board (CARB) Consumer Products regulation for non-aerosol, motor vehicle wash (0.2% VOC limit as of December 31, 2012). BIO-SOFT® S-101 is an approved ingredient on www.cleangredients.org. This formulations does not contain Nonylphenol Ethoxylates (NPEs) and utilizes AMMONYX® CDO SPECIAL as an alternate to Cocamide DEA.

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- AMMONYX®
For applications or product handling assistance, call our Technical Service Department at 1-800-745-7837 (U.S.) or 011-334-76-505-100 (Europe).
For ordering assistance, call our Account Service Department at 1-800-457-7673.

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