**DEA FREE ANTI-DANDRUFF SHAMPOO WITH SELENIUM SULFIDE**

**Description:** This shampoo provides cleansing as well as dandruff relief. It incorporates Selenium Sulfide as the active and is formulated without DEA amide.

**Formulation INGREDIENTS:**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized Water</td>
<td>q.s. to 100.0</td>
</tr>
<tr>
<td>STEPANOL® AM-V</td>
<td>51.7</td>
</tr>
<tr>
<td>Di (Hydrogenated) Tallow Phthalic Acid (HALLSTAR® TAB-2)</td>
<td>5.0</td>
</tr>
<tr>
<td>NINOL® M-10</td>
<td>2.0</td>
</tr>
<tr>
<td>Selenium Sulfide</td>
<td>1.0</td>
</tr>
<tr>
<td>Versene (Dow Chemical) EDTA</td>
<td>0.2</td>
</tr>
<tr>
<td>Dye, Fragrance, Preservative</td>
<td>q.s.</td>
</tr>
<tr>
<td>Sodium Hydroxide</td>
<td>q.s.</td>
</tr>
<tr>
<td>Citric Acid</td>
<td>q.s.</td>
</tr>
<tr>
<td>Ammonium Chloride</td>
<td>q.s.</td>
</tr>
</tbody>
</table>

**Total** 100.0

**Procedure:**

Into a suitable vessel equipped with mixing, heating, and cooling capabilities, add Deionized Water, EDTA, STEPANOL® AM-V, and NINOL® M-10. Begin to agitate and heat to 160-165°F. Add Selenium Sulfide. At 145°F, add Di (Hydrogenated) Tallow Phthalic Acid and continue to heat to 160-165°F. Agitate the batch for 30 minutes.** Begin to cool. At 110°F, add Dye, Fragrance, and Preservative. Adjust pH to 5.0 - 6.2 with Sodium Hydroxide or Citric Acid. Adjust to desired viscosity with Ammonium Chloride.

**Physical Properties:**

- **Appearance:** Opaque liquid
- **Viscosity at 25°C, cps:** 2500 - 3500
- **pH, as is:** 5.0 - 6.2

**Storage/ Stability:**

- 3 months at 25°C Stable
- 1 month at 42°C Stable
- 1 month at 50°C Stable

**Instructions for Use:** Apply to wet hair, lather, and rinse.

**External Comment:** This type of product is considered to be an over-the-counter (O-T-C) drug by the United States Food and Drug Administration (FDA). In order to market such a product, one must consult the appropriate FDA monograph for efficacy and manufacturing requirements and product must be manufactured in a registered FDA facility.

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- **STEPANOL®**
- **NINOL®**

For applications or product handling assistance, call our Technical Service Department at 1-800-745-7837 (U.S.) or
For Additional Assistance

011-334-76-505-100 (Europe).
For ordering assistance, call our Account Service Department at 1-800-457-7673.

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