Name: CLEAR LIQUID HAND SOAP
No.: 389
Description: This liquid hand soap provides good cleansing and foaming.

**Formulation**

**INGREDIENTS:**

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized Water</td>
<td>q.s. to 100.0</td>
</tr>
<tr>
<td>BIO-TERGE® AS-40 (or BIO-TERGE® AS-40 HA)</td>
<td>15.4</td>
</tr>
<tr>
<td>STEOL® CS-460</td>
<td>9.0</td>
</tr>
<tr>
<td>AMPHOSOL® CA</td>
<td>4.0</td>
</tr>
<tr>
<td>NINOL® 40-CO</td>
<td>1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase 2</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric Acid</td>
<td>q.s.</td>
</tr>
<tr>
<td>Fragrance, Dye, &amp; Preservative</td>
<td>q.s.</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>q.s.</td>
</tr>
</tbody>
</table>

**Total:** 100.0

**Procedure**

1. Add the components in Phase 1 to Deionized Water and blend until clear.
2. Adjust pH to 5.5-6.5 with Citric Acid.
3. Add Fragrance, Dye, and Preservative, if desired.
4. Adjust to desired viscosity with Sodium Chloride.

*Note: When formulating with BIO-TERGE® AS-40 HA, a greater amount of Citric Acid may be needed to adjust the pH within the recommended range as noted, than when formulating with BIO-TERGE® AS-40.*

**Physical Properties**

- **Appearance, as is:** Light yellow liquid
- **pH, as is:** 5.5-6.5
- **Viscosity, cps:**
  - 0.0% Sodium Chloride: 25
  - 0.5% Sodium Chloride: 25
  - 1.0% Sodium Chloride: 50
  - 3.0% Sodium Chloride: 800

**Storage/Stability**

- 3 months at 25°C: Stable
- 1 month at 42°C: Stable
- 1 month at 50°C: Stable
- Freeze/thaw, 1 cycle: Pass

**Instructions for Use**

Apply to wet hands, lather, and rinse.

**External Comment**

Marketing Notes: AMPHOSOL® HCA-HP may be a potential substitute for AMPHOSOL® CA. It should be noted that stability testing using this AMPHOSOL® HCA-HP has not been completed on this formulation, and in addition to the pH adjustment taking a greater amount of Citric Acid, the substitution may also yield slightly different physical properties.

**Registered**

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STEOL®
NINOL®
AMPHOSOL®

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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