

Product Name	<b>AMMONYX® MO</b>																																		
Chemical Structure	$\text{CH}_3(\text{CH}_2)_x - \text{N} \begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3 \end{array} \rightarrow \text{O}$ <p style="text-align: right;">x = 13 (predominately)</p>																																		
Chemical Description	Myristyl Dimethylamine Oxide																																		
CAS Registry No.	3332-27-2																																		
INCI Name	Myristamine Oxide																																		
Applications	<p><u>Functional Properties</u></p> <ul style="list-style-type: none"> <li>Cleansing Agent</li> <li>Emulsifier</li> <li>Hair Conditioning Agent</li> <li>Emollient</li> <li>Foam Stabilizer</li> <li>Viscosity Booster</li> <li>Foam Booster</li> <li>Acid &amp; Alkali Stable</li> <li>Bleach Stable</li> </ul> <p><u>End Product Uses</u></p> <ul style="list-style-type: none"> <li>Shampoos</li> <li>Bubble Baths</li> <li>Household Products</li> <li>Shaving Creams</li> <li>Facial Masks (Mud Packs)</li> <li>Industrial &amp; Institutional Products</li> <li>Hair Conditioners</li> <li>Hand Soaps</li> </ul>																																		
Typical Properties	<table> <tr> <td>Appearance at 25 °C.....</td><td>Clear liquid</td><td>Pour Point, °C (°F).....</td><td>4 (39)</td></tr> <tr> <td>Amine Oxide (MW 271), %.....</td><td>30</td><td>Viscosity at 25 °C, cps.....</td><td>2336</td></tr> <tr> <td>Free Amine (MW 255), %.....</td><td>0.5</td><td>Viscosity at 60 °C, cps.....</td><td>459</td></tr> <tr> <td>Hydrogen Peroxide, % .....</td><td>0.1</td><td>Flash Point (PMCC), °C (°F).....</td><td>&gt;94 (&gt;201)</td></tr> <tr> <td>pH, 10% aqueous.....</td><td>8.0</td><td>Freeze Point, °C (°F).....</td><td>1 (34)</td></tr> <tr> <td>Cloud Point (as is), °C (°F).....</td><td>3 (37)</td><td>Density, g/ml (lbs/U.S. gal) .....</td><td>0.960 (8.0)</td></tr> <tr> <td>Boiling Point, °C (°F) .....</td><td>100 (212)</td><td>RVOC, U.S. EPA, %.....</td><td>0</td></tr> <tr> <td>Color (APHA) .....</td><td>80 max.</td><td>Preservative .....</td><td>Not required</td></tr> </table>			Appearance at 25 °C.....	Clear liquid	Pour Point, °C (°F).....	4 (39)	Amine Oxide (MW 271), %.....	30	Viscosity at 25 °C, cps.....	2336	Free Amine (MW 255), %.....	0.5	Viscosity at 60 °C, cps.....	459	Hydrogen Peroxide, % .....	0.1	Flash Point (PMCC), °C (°F).....	>94 (>201)	pH, 10% aqueous.....	8.0	Freeze Point, °C (°F).....	1 (34)	Cloud Point (as is), °C (°F).....	3 (37)	Density, g/ml (lbs/U.S. gal) .....	0.960 (8.0)	Boiling Point, °C (°F) .....	100 (212)	RVOC, U.S. EPA, %.....	0	Color (APHA) .....	80 max.	Preservative .....	Not required
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Biodegradability	Product is biodegradable. A detailed biodegradability statement is available upon request.																																		
Toxicity	AMMONYX MO is practically non-toxic orally (LD <sub>50</sub> >5g/kg) and is moderately irritating to skin. The product is minimally irritating to eyes at 2% active.																																		
Storage & Handling	<p>Normal safety precautions (i.e., gloves and safety goggles) should be employed when handling AMMONYX MO. Contact with the eyes and prolonged contact with the skin should be avoided. Wash thoroughly after handling material.</p> <p>It is recommended that AMMONYX MO be stored in sealed containers and kept at temperatures not lower than 50 °F (10 °C) nor higher than 120 °F (49 °C). Avoid overheating or freezing. If material is frozen, mild heat and agitation are recommended to ensure the material is homogeneous before use.</p> <p><u>Standard Packaging:</u> AMMONYX MO is available in bulk and 55 gallon fiber open head liquipak drums (net weight 425 lb/193 kg).</p>																																		
Clearances	<p>All components of AMMONYX MO are listed in the following countries; the registration numbers for the active ingredients are included in parentheses: Europe (EINECS 222-059-3), Japan (ENCS 2-198), Canada (DSL 3332-27-2), Australia (AICS 3332-27-2), Korea (98-3-970) and United States (TSCA listed).</p> <p>AMMONYX®, AMPHOSOL®, BIO-TERGE® and NINOL® are registered trademarks of the Stepan Company.</p>																																		



## Formulations

<b>CONDITIONING HAND SOAP</b>		
<b>Ingredients</b>	<b>Wt, % (as is)</b>	<b>Function</b>
1. BIO-TERGE® AS-40	23.30	Primary Surfactant
2. AMMONYX MO	5.00	Conditioning Agent
3. NINOL® 96-SL	3.50	Viscosity & Foam Enhancer
4. AMPHOSOL® CA	1.00	Conditioning Agent
5. Polyquaternium-7	0.25	Film Former
6. Citric Acid (50%)	q.s.	pH Adjuster
7. Dye, Preservative, Fragrance	q.s.	Additives
8. Sodium Chloride	q.s.	Viscosity Adjuster
9. D.I. Water	q.s. to 100.0	Solvent, Carrier

### **Mixing Procedure:**

Add first five ingredients to water, heat to 60 °C (140 °F), blend until homogeneous. Adjust pH to 6.0-7.0 with citric acid. Add fragrance, dye and preservative, as desired. Adjust to desired viscosity with Sodium Chloride.

### **Physical Properties:**

pH, as is.....	6.0 - 7.0
Appearance at 25 °C .....	Clear, yellow liquid
Viscosity Profile:	
As is.....	1,000 cps
with 0.5% Sodium Chloride .....	13,300 cps
with 1.0% Sodium Chloride .....	25,300 cps

## Product Stewardship

This product bulletin has been written in accordance with ACC's Product Stewardship guidelines.

## Additional Safety Information

A Safety Data Sheet is available upon request.



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