



# Formulation

Name	<b>ECONOMY LIQUID DISH DETERGENT WITH LAS/SLES-3/LAURYL/MYRISTYL AMIDOPROPYL AMINE OXIDE</b>	
No.	1187	
Description	This economy liquid dish detergent (LDL) contains no Cocamide DEA surfactants. It is composed of two primary surfactants, BIO-SOFT® S-101 (Linear Alkyl Benzene Sulfonic Acid or LAS) and STEOL® CS-460 (Sodium Laureth Sulfate with 3 moles Ethylene Oxide or SLES-3), and one secondary surfactant, AMMONYX® LMDO (Lauryl/Myristyl Amidopropyl Amine Oxide).	
Formulation	<b>INGREDIENTS:</b>	<b>% by Weight    Functionality</b>
	Deionized Water	80.38% Diluent
	Sodium Hydroxide	1.95% pH Adjuster
	BIO-SOFT® S-101	7.29% Primary Surfactant
	STEOL® CS-460	5.00% Primary Surfactant
	STEPANATE® SXS	0.75% Hydrotrope
	AMMONYX® LMDO	3.33% Secondary Surfactant
	Sodium Chloride	1.30% Viscosity Builder
	Preservative	q.s. Preservative
	<b>Total</b>	<b>100.00%</b>
Procedure	<ol style="list-style-type: none"> <li>1. Charge Deionized Water.</li> <li>2. Add Sodium Hydroxide and mix.</li> <li>3. Slowly add BIO-SOFT® S-101 and mix until homogenous. The solution will give off heat during the neutralization.</li> <li>4. Add STEOL® CS-460 and STEPANATE® SXS and mix.</li> <li>5. Add AMMONYX® LMDO, mixing until homogenous.</li> <li>6. Slowly add Sodium Chloride to thicken. The amount of Sodium Chloride will vary depending upon the target viscosity. Mix until clear.</li> <li>7. Adjust pH as necessary with Sodium Hydroxide or BIO-SOFT® S-101.</li> <li>8. Add Preservative and mix until homogenous.</li> </ol>	
Physical Properties	Appearance at 25 °C	Clear liquid
	Viscosity at 25 °C, cps	300–400
	Actives, %	11.1
	Solids, %	13.2
	pH, as is	6.5–7.5
	Density at 25°C, lbs/gal	8.5
	Flash Point, °F (PMCC)	>200
Storage/ Stability	Freeze/Thaw (3 cycles)	Pass
	4 weeks at 4 °C	Stable
	4 weeks at 25 °C	Stable
	4 weeks at 50 °C	Stable
Instructions for Use	Squirt a small amount of detergent into sink. Fill sink with warm/hot water.	

External  
Comment

Marketing Notes: AMMONYX® LMDO, BIO-SOFT® S-101, and STEPANATE® SXS are approved ingredients on [www.cleangredients.org](http://www.cleangredients.org). This formulation does not contain Nonylphenol Ethoxylates (NPEs) or Cocamide DEA. Note: The amount of Sodium Hydroxide will vary depending on % anionic actives and % sulfuric acid of BIO-SOFT® S-101. Alternatively, Ethanol can be used as the hydrotrope to replace STEPANATE® SXS. Use 0.75% 200-proof Ethanol and 1.45% Sodium Chloride for equivalent viscosity.

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Additional  
Assistance

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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