

Formulation

Name	ECONOMY LIQUID DISH DETERGENT WITH LAS/SLES-3/LAURYL/MYRISTYL AMIDOPROPYL AMINE OXIDE	
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	INGREDIENTS:	<u>% by Weight</u> <u>Functionality</u>
	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
	Total	100.00%
Procedure	<ol style="list-style-type: none"> 1. Charge Deionized Water. 2. Add Sodium Hydroxide and mix. 3. Slowly add BIO-SOFT® S-101 and mix until homogenous. The solution will give off heat during the neutralization. 4. Add STEOL® CS-460 and STEPANATE® SXS and mix. 5. Add AMMONYX® LMDO, mixing until homogenous. 6. Slowly add Sodium Chloride to thicken. The amount of Sodium Chloride will vary depending upon the target viscosity. Mix until clear. 7. Adjust pH as necessary with Sodium Hydroxide or BIO-SOFT® S-101. 8. Add Preservative and mix until homogenous. 	
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. 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).
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Revision Date: 06/30/2017 Publication Date: 05/02/2013 © 2017, Stepan Company. All rights reserved.