



Formulation

Name	ECONOMY LIQUID DISH DETERGENT USING BIO-SOFT® S-101	
No.	1267	
Description	This formulation provides equal to slightly better performance for foam mileage against major U.S. economy-tier brands. All Stepan ingredients are suitable for U.S. EPA Safer Choice certification. Contact Stepan for further information.	
Formulation	INGREDIENTS:	<u>% by Weight</u> <u>Functionality</u>
	Water	q.s. to 100 Carrier
	Sodium Hydroxide (Caustic Soda)	1.80 Neutralizer
	BIO-SOFT® S-101	6.75 Primary Surfactant
	STEOL® CS-270 C (or STEOL® CS-270 PLUS)	6.70 Primary Surfactant
	AMMONYX® LMDO	3.00 Secondary Surfactant
	Citric Acid, 50% Solution	q.s. pH Modifier
	Sodium Chloride	1.00 Viscosity Builder
	Preservative, Dye, Fragrance, etc.	q.s.
	Total	100.00
Procedure	<ol style="list-style-type: none"> 1. Charge water and add sodium hydroxide while mixing. 2. Slowly add the BIO-SOFT® S-101 acid and mix until homogeneous. Note: This neutralization generates heat. Keep the temperature below 50°C (122°F) while neutralizing. 3. Check the pH, and if it is below 5, adjust with Sodium Hydroxide until it is above 5. 4. Once the pH is above 5, add the STEOL® CS-270 C (or STEOL® CS-270 PLUS) and mix until homogeneous. 5. Add the AMMONYX® LMDO and mix until homogeneous. Check the pH. 6. Use Citric Acid, 50% Solution or Sodium Hydroxide to adjust the pH to between 6.5 - 8.5. 7. Add preservative, dye, fragrance and other additives and mix until homogeneous. 8. Add the sodium chloride to increase the viscosity and mix until homogeneous. <p>**While this formulation provides a starting point, it is up to the end manufacturer to ensure their formulations and products meet all application regulations, including the New York 1,4-dioxane concentration limits.</p>	
Physical Properties	Appearance at 25 °C	Clear liquid
	pH, as is	6.5-8.5
	Viscosity at 25 °C, cps	500 - 800
	Density at 25 °C, lbs/U.S. gal	8.59
	Density at 40 °C, lbs/U.S. gal	8.47
Storage/ Stability	Freeze/Thaw (3 cycles)	Pass
	6 weeks at 4 °C (39 °F)	Stable
	6 weeks at 25 °C (77 °F)	Stable
	6 weeks at 40 °C (104 °F)	Stable
Instructions for Use	Squirt a small amount of detergent into sink and fill sink with warm/hot water. Alternately, squirt a small amount of detergent onto damp sponge or washcloth.	
	The performance of this formulation using STEOL® CS-230 is equal to or slightly better compared	

to two national consumer economy brand dish detergents.

External
Comment

Marketing Notes: STEOL® CS-270 PLUS has a maximum residual 1,4-dioxane level of 10 ppm on an as supplied basis. AMMONYX® LMDO, BIO-SOFT® S-101, and STEOL® CS-270 C are currently listed on Cleangredients.org and meet the U.S. EPA Safer Choice Surfactant Screen.

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For
Additional
Assistance

For applications or product handling assistance, call our Technical Service Department at 1-800-745-7837 (U.S.) or +33 476 505 100 (Europe).
For ordering assistance, call our Account Service Department at 1-800-457-7673.

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