



Formulation

Name	ECONOMY LIQUID LAUNDRY DETERGENT	
No.	1135	
Description	Instructions for modifying to High Efficiency (HE), bleaching action, and softergent versions are included in the full formulation details. Suggested dosing level is 1.56 fl. oz./load.	
Formulation	INGREDIENTS:	<u>% by Weight</u> <u>Functionality</u>
	BIO-SOFT® S-101	4.60 Surfactant
	BIO-SOFT® EC-690	6.70 Surfactant
	STEOL® CS-460 (or STEOL® CS-460 PLUS)	4.20 Surfactant
	STEPANATE® SXS	1.80 Hydrotrope
	Sodium Carbonate (100% powder)	2.80 Buffer, Builder
	Sodium Hydroxide (50% aqueous solution)	1.30 Neutralizer
	Fluorescent Whitening Agent	0.10 Brightener
	Ethanol	0.90 Additives
	Deionized Water, Colorant, Fragrance	q.s. to 100
	Total	100.00
Procedure	<ol style="list-style-type: none"> Charge 140°F (60°C) water (50% of the calculated total required) and start agitation. Keep agitation going until batch is complete. Add Fluorescent Whitening Agent. Mix for at least 30 minutes if Whitener is a powder. Add 75% of the Sodium Hydroxide charge with mixing. Slowly add BIO-SOFT® S-101 with mixing. Add BIO-SOFT® EC-690 with mixing. Add STEOL® CS-460 (or STEOL® CS-460 PLUS) with mixing. Batch will thin. Add STEPANATE® SXS with mixing. Adjust pH with Sodium Hydroxide while mixing. Ensure pH is at least 11.5 before proceeding. Add Sodium Carbonate with mixing. Once batch has cooled to 90°F (32°C) or below, add Fluorescent Whitening Agent, Ethanol, Colorant and Fragrance with mixing. Add required amount of Deionized Water to complete batch with mixing. Run final pH check. If pH is below 11.5, adjust into target range with Sodium Hydroxide. If pH is above 12.1, adjust into target range with BIO-SOFT® S-101. <p>A. HIGH EFFICIENCY (HE) VERSION: Add 3% hardened coconut fatty acid after Step 3 and use 1.11% more Sodium Hydroxide in Step 4 (for a total of 2.36% of 50% Sodium Hydroxide including both Steps 4 and 8).</p> <p>B. BLEACHING ACTION VERSION: Use 50% more Fluorescent Whitening Agent (for a total of 0.15%) in Step 2.</p> <p>C. SOFTERGENT VERSION: Add 0.7% ACCOSOFT® 365 after Step 7.</p> <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</p>	

	concentration limits.	
Physical Properties	Appearance at 25°C pH, as is Viscosity at 25°C, cps	Clear liquid 11.5–12.0 (Target 11.9) 100–250
Storage/Stability	3 Freeze/Thaw Cycles 4 Weeks at 5°C 4 Weeks at Room Temperature 4 Weeks at 40°C	Pass Pass Pass Pass
Instructions for Use	32 loads/50 fl. oz. bottle = 1.56 fl. oz./load HE = 32 loads/50 fl. oz. bottle Bleaching = 26 loads/50 fl. oz. bottle Softergent = 26 loads/50 fl. oz. bottle	
External Comment	Marketing Notes: BIO-SOFT® S-101, BIO-SOFT® EC-690, and STEPANATE® SXS are approved ingredients on www.cleangredients.org . For further information, visit www.stepan.com or www.cleangredients.org . STEOL® CS-460 PLUS has a maximum residual 1,4-dioxane level of 9 ppm on an as supplied basis.	
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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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