

Formulation

Name	SULFATE-FREE FOAMING HAND SOAP	
No.	1232	
Description	This sulfate-free hand soap is designed for foaming pump applications.	
Formulation	INGREDIENTS:	% by Weight Functionality
	=== Phase 1 ===	
	Deionized Water	q.s. to 100.00 Carrier
	ALPHA-STEP® PC-48	19.25 Primary Surfactant
	AMPHOSOL® HCG	11.90 Secondary Surfactant
	=== Phase 2 ===	
	NINOL® CAA	1.50 Secondary Surfactant
	STEPANTEX® CO-40	1.50 Solubilizer
	Dipropylene Glycol	0.50 Solubilizer
	Fragrance #4200 Citrus Water (Chemia)	2.00 Fragrance
	=== Phase 3 ===	
	Sodium Hydroxide, 50% solution	q.s. pH Adjuster
	Citric Acid, 50% solution	q.s. pH Adjuster
	Preservative and Dye	q.s. Additives
	Total	100.00
Procedure	<p>1. In a suitable vessel equipped with agitation and heating/cooling, charge the Deionized Water with the ALPHA-STEP® PC-48 and the AMPHOSOL® HCG. Mix until homogeneous. Begin heating to 40°C-45°C.</p> <p>2. In a separate vessel, mix together NINOL® CAA, STEPANTEX® CO-40, Dipropylene Glycol, and Fragrance #4200 Citrus Water until clear and homogeneous.</p> <p>3. Add this mixture to the Deionized Water, ALPHA-STEP® PC-48, and AMPHOSOL® HCG mixture with mixing. Continue mixing until the formulation is clear then begin to cool the mixture to room temperature.</p> <p>4. Once cooled, adjust pH to 5.5–6.5 with Sodium Hydroxide and Citric Acid.</p> <p>5. Add Preservative and Dye.</p>	
Physical Properties	Appearance at 25°C	Clear, light yellow liquid
	pH, as is	5.5 - 6.5
	Viscosity at 25°C, cps	Water thin
Storage/Stability	4 weeks at 25°C	Stable
	4 weeks at 45°C	Stable
	Freeze/Thaw, 3 cycles	Passes
External Comment	<p>Marketing Notes: NINOL® CAA is a multifunctional secondary surfactant that is naturally-derived (derived from plant, animal or marine sources). Sulfate-free is defined as not containing Alcohol sulfate or Alcohol ether sulfate as per INCI nomenclature. This definition does not include the inorganic sulfates, e.g. Sodium sulfates, used as processing aids or formed as a residual, impurity</p>	

or by-product. BCI = 81. Total Biorenewable Carbon Index (BCI) was calculated only for the Stepan surfactants used in this formulation. Other ingredients were not evaluated. For further information on Stepan's BCI, visit www.stepan.com.

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Stepan Company
Northfield, Illinois 60093
Telephone (847) 446-7500

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