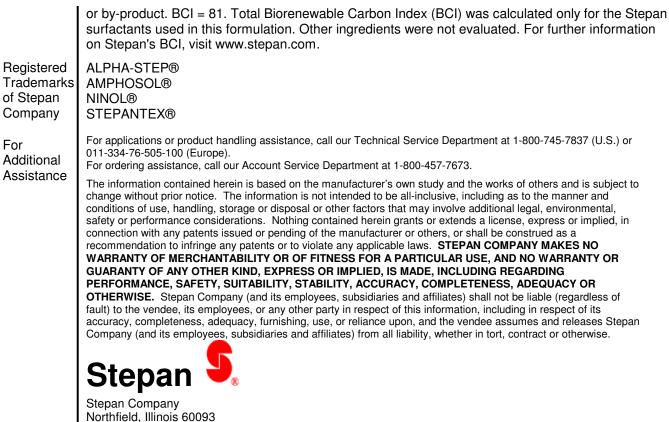


Name	SULFATE-FREE FOAMING HAND SOAP		
No.	1232		
Description	This sulfate-free hand soap is designed for foaming pump applications.		
Formulation	INGREDIENTS:	<u>% by Weight</u>	Functionality
	=== Phase 1 === Deionized Water ALPHA-STEP® PC-48 AMPHOSOL® HCG === Phase 2 === NINOL® CAA STEPANTEX® CO-40 Dipropylene Glycol Fragrance #4200 Citrus Water (Chemia) === Phase 3 === Sadium Underwide, 50% colution	11.90 1.50 1.50 2.00	 Primary Surfactant Secondary Surfactant Secondary Surfactant Solubilizer Solubilizer Fragrance
	Sodium Hydroxide, 50% solution Citric Acid, 50% solution		pH Adjuster pH Adjuster
	Preservative and Dye	q.s.	Additives
	Total	100.00	
Procedure	 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. In a separate vessel, mix together NINOL® CAA, STEPANTEX® CO-40, Dipropylene Glycol, and Fragrance #4200 Citrus Water until clear and homogeneous. 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. Once cooled, adjust pH to 5.5–6.5 with Sodium Hydroxide and Citric Acid. Add Preservative and Dye. 		
Physical Properties	Appearance at 25ºC pH, as is Viscosity at 25ºC, cps	Clear, light yellow liquid 5.5 - 6.5 Water thin	
Storage/ Stability	4 weeks at 25ºC 4 weeks at 45ºC Freeze/Thaw, 3 cycles	Stable Stable Passes	
External Comment	Marketing Notes: NINOL® CAA is a multifunctional secor (derived from plant, animal or marine sources). Sulfate-fr sulfate or Alcohol ether sulfate as per INCI nomenclature inorganic sulfates, e.g. Sodium sulfates, used as process	ee is defined a	as not containing Alcohol n does not include the



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