




Formulation

Name	GENTLE CLEANSING BASE WITH COCONUT WATER AND COCONUT DERIVED SURFACTANTS		
No.	1447		
Description	Go coco-NUTS for this cleansing base featuring two of Stepan's naturally derived, coconut-based surfactants. As is, this formulation makes an excellent starting point for a gentle, sulfate-free shampoo. Looking to make a body wash or hand soap instead? Simply dilute down to the desired actives level and add a bit of salt to thicken. And, it's easy to add other coconut derived surfactants for even more bubbly fun!		
Formulation	INGREDIENTS:	% by Weight	Functionality
	=== Phase 1 ===		
	Deionized Water	63.53	Carrier
	Glycerin	1.50	Humectant
	Microcare PE® (Thor) Phenoxyethanol	0.70	Preservative
	=== Phase 2 ===		
	ALPHA-STEP® PC-48	10.00	Secondary Surfactant, Solubilizer
	Fragrance	0.10	Fragrance
	=== Phase 3 ===		
	AMPHOSOL® CS-50	22.67	Primary Surfactant
	Coconut Water	1.50	Additive
	=== Phase 4 ===		
	Citric Acid	q.s.	pH Adjuster
	Sodium Hydroxide	q.s.	pH Adjuster
	=== Phase 5 ===		
	Sodium Chloride	q.s.	Viscosity Adjuster
	Total	100.00	
Procedure	<ol style="list-style-type: none">1. Add Phase 1 ingredients to the main tank with regular mixing until batch is uniform.2. In a separate tank, premix Phase 2 ingredients in an auxiliary tank until clear.3. Next, slowly transfer contents from the auxiliary tank to the main tank with SLOW mixing to ensure mixture does not foam. Continue mixing until batch is uniform and continue to the next tank.4. With slow mixing, slowly add Phase 3 ingredients to the main tank. Continue slow mixing until batch is uniform*. <p>* Ensure slow mixing is maintained to minimize aeration.</p> <ol style="list-style-type: none">5. Add Phase 4 ingredients to the main tank, as a solution or granules, for pH adjustment as needed.6. Use Phase 5 ingredients, as a solution or granules, to adjust viscosity (to increase it) as needed.		
Physical Properties	Appearance, as is	Clear liquid	
	pH, as is, at 25°C	4.5 - 5.5	

	Viscosity at 25°C (LV3 spindle at 4 rpm), cps	10,000 - 17,000
Storage/ Stability	4 Weeks at 4°C	Stable
	4 Weeks at 25°C	Stable
	4 Weeks at 40°C	Stable
	Freeze/Thaw, 3 Cycles	Pass
Instructions for Use	Shampoo: Apply to wet hair. Lather, then rinse thoroughly. Repeat if desired. Body wash: Wet the skin, apply to the body, and rub to develop a foam. Rinse thoroughly . Hand Soap: Wet the skin, apply on hands, and work through to develop a foam. Rinse thoroughly.	
External Comment	Marketing Notes: This formulation is 96% Bio-Based (per ISO 16128, excluding fragrance, preservatives, by-products, and impurities). ALPHA-STEP® PC-48 and AMPHOSOL® CS-50 are each derived from coconut oil. As is, this base achieves a viscosity (LV3 spindle at 4 rpm) of 16,600 cps with no additional salt (Sodium Chloride) added. At 9% total surfactant actives, approximately 1 wt% of salt yielded a viscosity (LV2 spindle at 12 rpm) of 7,800 cps. At 7% total surfactant actives, approximately 0.7 wt% of salt yielded a viscosity (using LV3 spindle at 12 rpm) of 3,600 cps.	
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