


Formulation

Name	CONDITIONING SHAMPOO USING EXCESS ALKALINITY SURFACTANTS	
No.	1251	
Description	This shampoo demonstrates how to formulate excess alkalinity surfactants with pH-sensitive polymers like carbomer and cationic guar.	
Formulation	INGREDIENTS:	<u>% by Weight</u> <u>Functionality</u>
	=== Phase 1 ===	
	Deionized water	q.s. to 100.00 Carrier
	Carbopol ETD 2020 Polymer (Lubrizol) Acrylates/C10-30 alkyl acrylate crosspolymer	0.50 Suspending Agent
	STEOL® CS-130 HP	40.00 Surfactant
	=== Phase 2 ===	
	Jaguar C-13S (Solvay Novecare) Guar	0.10 Conditioning Agent
	Hydroxypropyltrimonium Chloride	1.00 Fragrance
	Fragrance	
	=== Phase 3 ===	
	STEPANOL® WA-EXTRA HA	6.70 Surfactant
	AMPHOSOL® HCA-HP	6.70 Surfactant
	Dow Corning 2-1870 (Dow Corning) Dimethiconol Microemulsion	8.00 Conditioning Agent
	Sodium Hydroxide, 50% solution	0.10 pH Adjuster
	Sodium Chloride	0.40 Viscosity Adjuster
	Kathon CG (Dow) Methylisothiazolinone and Methylchloroisthiazolinone	0.04 Preservative
	Total	100.00
Procedure	<ol style="list-style-type: none"> 1. To a suitable container with mixing and heating capability, add Deionized Water with mixing. 2. Under moderate agitation, slowly disperse Carbopol ETD 2020 Polymer, taking care to avoid aeration. Mix until powder particles are dissolved and no particles are visible. Continue mixing for another 20 minutes until a hazy to clear homogenous solution is formed. 3. Add STEOL® CS-130 HP and mix well. Mix until homogenous. 4. In a separate vessel, premix Jaguar C-13S and Fragrance. The guar will be pre-wetted but not dissolved. 5. Add guar-oil premix into the other batch. Mix well for about 20 minutes. 6. Add STEPANOL® WA-EXTRA HA and mix well. Mix until homogenous. 7. Add AMPHOSOL® HCA-HP and mix well. Mix until homogenous. 8. Add Dow Corning 2-1870 and mix well. Mix until homogenous. 9. Add Sodium Hydroxide, 50% solution, with mixing. Mix well for about 20 minutes. 10. Add Sodium Chloride with mixing, as needed to adjust viscosity. 11. Add Kathon CG with mixing. Mix well for about 20 minutes or until batch is completely homogenous. 12. Check pH and viscosity. Adjust to target specifications as needed. 	
Physical	Appearance at 25°C	Translucent, free-flowing liquid

Properties	pH, as is Viscosity at 25°C (LV, spindle 3, speed 12 rpm), cps	5.5 - 6.5 3,000 - 7,000
Storage/ Stability	25°C at 3 months 4°C at 3 months 45°C at 3 months Freeze/Thaw, 3 cycles	Stable Stable Stable Passes
External Comment	BCI = 85. 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 . This formulation contains several surfactants that are preserved by excess alkalinity. This allows the formulator flexibility when selecting a preservative for the finished formulation.	
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