

Formulation

Name	SILKY SHINE SHAMPOO USING EXCESS ALKALINITY SURFACTANTS	
No.	1247	
Description	This formulation demonstrates the use of Excess-Alkalinity surfactants to create a pearlescent, viscous shampoo.	
Formulation	<p>INGREDIENTS:</p> <p>Deionized Water STEPANOL® WA-EXTRA HP STEOL® CS-230 PC HP AMPHOSOL® HCG-HP Citric Acid, 50% solution NINOL® COMF-N HALLSTAR® EGMS (Hallstar) Ethylene Glycol Monostearate Vitamin E Vitamin A Preservative and Fragrance Citric Acid, 50% solution Sodium Hydroxide, 50% solution Sodium Chloride STEPANATE® SXS</p>	<p><u>% by Weight</u> <u>Functionality</u></p> <p>q.s. to 100.0 Carrier 20.5 Primary Surfactant 23.5 Primary Surfactant 10.0 Secondary Surfactant 0.5 pH Adjuster 2.0 Secondary Surfactant 1.0 Pearlescent Agent 0.1 Additive 0.1 Additive q.s. Additives q.s. pH Adjuster q.s. pH Adjuster q.s. Viscosity Adjuster q.s. Viscosity Adjuster</p>
	Total	100.0
Procedure	<ol style="list-style-type: none"> 1. To a suitable container, charge Deionized water and begin mixing slowly. 2. Slowly add STEPANOL® WA-EXTRA HP, taking care to avoid splashing. Mix until homogeneous. 3. Add STEOL® CS-230 PC HP and continue to mix until homogenous. 4. Add AMPHOSOL® HCG-HP with mixing. Continue to mix until homogenous. Once homogenous, check the pH of the solution. 5. Adjust pH to 6.0 (if needed) using Citric Acid, 50% solution. 6. Begin heating solution to 55°C-60°C. At approximately 45°C, NINOL® COMF-N can be added with mixing. Mix at 55°C-60°C until the NINOL® COMF-N has been completely incorporated. 7. Add HALLSTAR® EGMS and mix until melted and solution is homogenous. Begin cooling with continuous mixing. 8. At 35°C-40°C, add Vitamin E, Vitamin A, Preservative and Fragrance. 9. Once cooled to 25°C, measure the pH and viscosity. 10. If needed, adjust pH to 5.5-6.5 with Sodium Hydroxide, 50% solution or Citric Acid, 50% solution. 11. If needed, adjust viscosity with Sodium Chloride (to increase the viscosity) or STEPANATE SXS to reduce the viscosity. 	
Physical Properties	<p>Appearance at 25°C pH, as is Viscosity at 25°C (Brookfield LV, Spindle 3 Speed 12), cps</p>	<p>Pearlescent, off-white liquid 5.5 - 6.5 5,000 - 10,000</p>
Storage/	3 months at 25°C	Stable

Stability	3 months at 4°C 3 months at 50°C Freeze/Thaw, 3 cycles	Stable Stable Passes, no phase separation
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External Comment	BCI = 80. 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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