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_	<b>Formulation</b>
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Name	NATURALLY-DERIVED, SULFATE-FREE CONDITIONING SHAMPOO

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No.	1094		
Description	This shampoo is formulated with naturally-derived surfactants and provides good foam and conditioning properties. It is gentle on colored and treated hair.		
Formulation	INGREDIENTS:	% by Weight Functionality	
	Deionized Water Glycerin (Uniqema) STEPAN-MILD® PCL AMPHOSOL® HCG (or AMPHOSOL® HCG-HP) STEPAN-MILD® GCC HALLSTAR® EGDS (Hallstar) DL-Panthenol (Roche) Panthenol Citric Acid, 50% solution Sodium Hydroxide, 50% solution Sodium Chloride Preservative, Dye and Fragrance	<ul> <li>q.s. to 100.00 Carrier</li> <li>0.50 Humectant</li> <li>38.00 Primary Surfactant</li> <li>10.00 Secondary Surfactant</li> <li>0.30 Conditioning Agent</li> <li>0.50 Pearlescent Agent</li> <li>0.20 Additive</li> <li>q.s. pH Adjuster</li> <li>q.s. Viscosity Adjuster</li> <li>q.s. Additives</li> </ul>	
	Total	100.00	
Procedure	<ol> <li>In a suitable vessel equipped with heating and agitation capabilities, charge Deionized Water.</li> <li>Start heating water to 60°C-65°C (140°F-149°F).</li> <li>Add Glycerin, STEPAN-MILD® PCL, AMPHOSOL® HCG (or AMPHOSOL® HCG-HP), STEPAN-MILD® GCC, and HALLSTAR® EGDS using moderate agitation. Continue heating to 60°C-65°C (140°F-149°F). Mix for at least 30 minutes until everything is completely dissolved.</li> <li>Begin cooling to 40°C (104°F). Adjust mixing speed to minimize aeration.</li> <li>At 40°C (104°F), add DL-Panthenol with continued mixing.</li> <li>Continue cooling the batch to 25°C (77°F).</li> <li>Adjust pH with Citric Acid, 50% solution or Sodium Hydroxide, 50% solution, if necessary. Adjust viscosity with Sodium Chloride, if necessary.</li> <li>Add Preservative, Dye and Fragrance as desired.</li> <li>*Note: When formulating with AMPHOSHOL® HCG-HP, a greater amount of Citric Acid (50% solution) may be needed to adjust the pH within the recommended range as noted, than when formulating with AMPHOSOL® HCG.</li> </ol>		
Physical Properties	Appearance, as is pH, as is Viscosity at 25ºC (LVT #3 at 12 rpm), cps	Pearlescent viscous liquid 5.5–6.5 3,500–6,000	
Storage/ Stability	4 weeks at 5ºC 4 weeks at 25ºC 4 weeks at 45ºC Freeze/Thaw 3 cycles	Stable Stable Stable Pass	
Instructions for Use	Massage into wet hair. Lather, then rinse thoroughly. Repeat if desired. Use daily.		
	This shampoo is gentle enough for permed or colored hair.		

