

# Formulation

Name	<b>NATURALLY-DERIVED, SULFATE-FREE CONDITIONING SHAMPOO</b>	
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	<b>INGREDIENTS:</b>	<b><u>% by Weight</u>    <u>Functionality</u></b>
	Deionized Water	q.s. to 100.00 Carrier
	Glycerin (Uniqema)	0.50 Humectant
	Versene 100 (Dow Chemical) Tetrasodium EDTA	0.10 Chelating Agent
	STEPAN-MILD® PCL	38.00 Primary Surfactant
	AMPHOSOL® HCG (or AMPHOSOL® HCG-HP)	10.00 Secondary Surfactant
	STEPAN-MILD® GCC	0.30 Conditioning Agent
	HALLSTAR® EGDS (Hallstar)	0.50 Pearlescent Agent
	DL-Panthenol (Roche) Panthenol	0.20 Additive
	Citric Acid, 50% solution	q.s. pH Adjuster
	Sodium Hydroxide, 50% solution	q.s. pH Adjuster
	Sodium Chloride	q.s. Viscosity Adjuster
	Preservative, Dye and Fragrance	q.s. Additives
	<b>Total</b>	<b>100.00</b>
Procedure	<ol style="list-style-type: none"> <li>1. In a suitable vessel equipped with heating and agitation capabilities, charge Deionized Water.</li> <li>2. Start heating water to 60°C–65°C (140°F-149°F).</li> <li>3. Add Glycerin, Versene 100, 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>4. Begin cooling to 40°C (104°F). Adjust mixing speed to minimize aeration.</li> <li>5. At 40°C (104°F), add DL-Panthenol with continued mixing.</li> <li>6. Continue cooling the batch to 25°C (77°F).</li> <li>7. Adjust pH with Citric Acid, 50% solution or Sodium Hydroxide, 50% solution, if necessary. Adjust viscosity with Sodium Chloride, if necessary.</li> <li>8. Add Preservative, Dye and Fragrance as desired.</li> </ol> <p>*Note: When formulating with AMPHOSOL® 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.</p>	
Physical Properties	Appearance, as is	Pearlescent viscous liquid
	pH, as is	5.5–6.5
	Viscosity at 25°C (LVT #3 at 12 rpm), cps	3,500–6,000
Storage/ Stability	4 weeks at 5°C	Stable
	4 weeks at 25°C	Stable
	4 weeks at 45°C	Stable
	Freeze/Thaw 3 cycles	Pass
Instructions for Use	Massage into wet hair. Lather, then rinse thoroughly. Repeat if desired. Use daily.	

External  
Comment

This shampoo is gentle enough for permed or colored hair.

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Marketing Notes: Naturally-derived is defined as surfactants sourced from plant, animal or marine feedstocks. Sulfate-Free\* means containing no alcohol sulfate or alcohol ether sulfate as per the INCI nomenclature. BCI = 85. Total Biorenewable Carbon Index (BCI) was calculated only for the Stepan surfactants used in this formulation. For further information on Stepan's BCI, visit [www.stepan.com](http://www.stepan.com).

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AMPHOSOL®

For  
Additional  
Assistance

For applications or product handling assistance, call our Technical Service Department at 1-800-745-7837 (U.S.) or 011-334-76-505-100 (Europe).  
For ordering assistance, call our Account Service Department at 1-800-457-7673.

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**Stepan** 

Stepan Company  
Northfield, Illinois 60093  
Telephone (847) 446-7500

Revision Date: 12/19/2016 Publication Date: 01/21/2009 © 2017, Stepan Company. All rights reserved.