

# Formulation

Name	<b>SULFATE-FREE, HIGH VISCOSITY, ANTI-DANDRUFF CRÈME SHAMPOO</b>	
No.	1211	
Description	This sulfate-free, Zinc Pyrithione-containing formulation is suitable for use as a regular anti-dandruff shampoo. It can easily be supplemented with silicones and oils to make a conditioning anti-dandruff shampoo. Its opaque, crème-like rheology can be dispensed from a tube or bottle.	
Formulation	<u>INGREDIENTS:</u>	<u>% by Weight</u> <u>Functionality</u>
	Deionized Water	q.s. to 100.00 Diluent
	Carbopol ETD 2020 Polymer	0.80 Suspending Agent
	Sodium Hydroxide - 50% Solution	0.07 pH Adjuster
	STEPAN-MILD® PCL	53.00 Primary Surfactant
	AMPHOSOL® CS-50	5.50 Secondary Surfactant
	Zinc Pyrithione (50% active)	2.00 Antidandruff Agent
	Preservatives, Fragrance, Dye	q.s. Fragrance, Preservative
	<b>Total</b>	<b>100.00</b>
Procedure	<ol style="list-style-type: none"> <li>1. Charge Deionized Water. Increase mixing speed from moderate to high speed, taking precautions to avoid splashing and aeration. If necessary, mild heating may be employed to accelerate ingredient mixing.</li> <li>2. Slowly disperse Carbopol ETD 2020 Polymer into the vortex. Check for any clumping before adding additional polymer.</li> <li>3. With good agitation, continue mixing 20–30 minutes until the viscosity of the solution increases. No particles should be present.</li> <li>4. Add the Sodium Hydroxide - 50% Solution. The viscosity of the solution will increase. Continue mixing at a low-to-moderate speed.</li> <li>5. Add STEPAN MILD® PCL, mixing until homogenous while avoiding aeration.</li> <li>6. Add AMPHOSOL® CS-50. Mix until homogenous. Avoid aeration.</li> <li>7. Add Zinc Pyrithione. Continue mixing.</li> <li>8. Use Sodium Hydroxide - 50% Solution to adjust pH to 5.5–6.5.</li> <li>9. Add Preservatives, Fragrance, and Dye. Continue mixing another 20 minutes.</li> </ol>	
Physical Properties	Appearance at 25°C	Opaque, free-flowing liquid
	pH, as is	5.0–6.5
	Viscosity at 25°C, cps	15,000–30,000
Storage/Stability	Freeze/thaw, 3 cycles	Pass
	3 months at 50°C	Pass
	3 months at 40°C	Pass
	3 months at 4°C	Pass
Instructions for Use	Wet hair. Massage into scalp. Lather and then rinse. Repeat as desired.	
External Comment	Marketing Notes: Sulfate free is defined by Stepan as containing no Alcohol Sulfates and no	

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Alcohol Ether Sulfates as per the INCI Nomenclature.

STEPAN-MILD®  
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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).  
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**Stepan** 

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

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