

Anti-Dandruff Shampoo with Zinc Pyrithione

SH-0015

This anti-dandruff shampoo, which contains a water soluble **SilSense™ * Silicone** conditioning agent as well as cationic conditioners, uses zinc pyrithione as the active ingredient. The zinc pyrithione is kept suspended using **Carbopol®* Ultrez 20 Polymer**.

INCI Name, Trade Name		Weight %	Function
A.	1. Deionized Water	38.80	Diluent
	2. Acrylates/C10-30 Alkyl Acrylate Crosspolymer, Carbopol®* Ultrez 20 Polymer	0.90	Rheology Modifier
B.	3. Propylene Glycol	5.00	Humectant
	4. Sodium Lauryl Sulfate (30%), Sulfochem™ * SLS-WA Surfactant	16.00	Surfactant
	5. Sodium Laureth Sulfate (3 mole, 28%), Sulfochem™ * ES-3 Surfactant	16.00	Surfactant
	6. Cocamidopropyl Betaine (35%), Chembetaine™ * C Surfactant	4.00	Surfactant
C.	7. Deionized Water	12.00	Diluent
	8. Polyquaternium-10, <i>Ucare® Polymer JR-400</i>	0.25	Conditioner
	9. DMDM Hydantoin (and) Iodopropynyl Butylcarbamate, <i>Glydant® Plus</i>	0.30	Preservative
	10. Sodium Hydroxide (18%)	1.60	Neutralizer
D.	11. Polyquaternium-39, <i>Merquat® Plus 3330</i>	1.00	Conditioner
	12. Dimethicone PEG-7 Isostearate, SilSense™ * DW-18 Silicone	0.20	Conditioner
	13. Zinc Pyrithione (48%), <i>Zinc Omadine FPS</i>	2.50	Anti-Dandruff Agent
	14. Fragrance, <i>Spicy Floral Fragrance #A41073</i>	0.40	Fragrance
	15. FD&C Blue No. 1 (0.1%)	1.05	Dye

Procedure:

1. Sprinkle Carbopol®* Ultrez 20 Polymer on surface of warm (40°C) deionized water. Wait until polymer has completely "wet out". Begin gentle mixing for 10 minutes.
2. Add PART B ingredients in order to PART A using slow mixing.
3. PART C: Disperse Ucare® JR-400 in deionized water (heat to help hydration). Add Glydant® Plus and sodium hydroxide. Mix until uniform.
4. Add PART C to batch. Mix until uniform.
5. Add PART D ingredients in order to batch. Mix until uniform. Verify that pH is 5.8 – 6.2, adjust with NaOH if necessary.

Product Properties:

Appearance Opaque, light blue,

viscous liquid

pH 5.8 – 6.2

Viscosity (mPa s)** 4,000 – 8,000

Yield Value (dyn/cm²) 120 – 250

Surfactant Actives (%) 10.6

Stability: Passed 3 months @ 45°C, 5 cycles freeze/thaw

** Brookfield RVT @ 20 rpm, 25°C, #4 spindle, Measured @ 24 hours

Supplier References:

Noveon, Inc. (2, 4, 5, 6, 12)

Dow (8)

Lonza (9)

Nalco (11)

Arch (13)

Symrise (14)

Quantum Colours (15)

Special Notes & Precautions:

1. Do not use a chelating agent as this will deactivate the zinc pyrithione.
2. When using zinc pyrithione, be sure it is uniform and has not frozen. If lumps are found, the zinc pyrithione must be filtered through fine cheese cloth before using. The fine particle size is the preferred zinc pyrithione to use.
3. Assay for zinc pyrithione can be performed using an iodine titration from Arch Chemical.

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