

Anti-Dandruff Shampoo

SH-0005

This multifunctional anti-dandruff shampoo contains a cationic conditioner and botanicals to provide conditioning and demonstrates the ability of **Carbopol®*** **Aqua CC Polymer** to provide excellent suspension and stabilization for zinc pyrithione and silicone at low pH.

	INCI Name, Trade Name	Weight %	Function
A.	1. Deionized Water	49.39	Diluent
	2. Polyquaternium-10, <i>Ucare® Polymer JR-30M</i>	0.25	Conditioner
B.	3. Sodium Lauryl Sulfate (30%), Sulfochem™* SLS-K Surfactant	16.00	Surfactant
	4. Sodium Laureth Sulfate (2 mole, 28%), Sulfochem™* ES-2 Surfactant	16.00	Surfactant
C.	5. Polyacrylate-1 Crosspolymer (20%), Carbopol®* Aqua CC Polymer	6.96	Rheology Modifier
	6. Cocamidopropyl Betaine (35%), Chembetaine™* CAD Surfactant	4.00	Surfactant
	7. Zinc Pyrithione, <i>Zinc Omadine® FPS</i>	2.50	Anti-Dandruff Agent
	8. Dimethicone (and) Laureth-4 (and) Laureth-23, <i>Dow Corning® 1664 Emulsion</i>	3.00	Conditioner
	9. FD&C Blue No. 1 (0.1%)	0.50	Dye
	10. Fragrance, <i>XBf-800404-Lavender Breeze</i>	0.30	Fragrance
	11. DMDM Hydantoin (and) Iodopropynyl Butylcarbamate, <i>Glydant Plus®</i>	0.30	Preservative
	12. Urtica Dioica (Stinging Nettle) Extract, Propylene Glycol, Herbasol® Stinging Nettle Extract PG	0.10	Botanical Extract
	13. Equisetum Arvense (Horsetail) Extract, Propylene Glycol, Herbasol® Horsetail Extract PG	0.10	Botanical Extract
	14. Chamomilla Recutita (Matricaria) Flower Extract, Propylene Glycol, Herbasol® Chamomile (Matricaria) Extract PG Decolorized	0.10	Botanical Extract
	15. Citric Acid (50%)	0.50**	Acidifier

** q.s. to pH 5.0

Procedure:

1. Prepare **PART A**: Disperse Polyquaternium-10 in water. Mix until uniform.
2. Prepare **PART B**: Add ingredients 3 & 4 to a separate vessel. Mix until uniform.
3. Add **PART A** to **PART B** slowly. Mix until uniform.
4. Add **PART C** ingredients to the batch in order. Mix until uniform.
5. Adjust final pH to pH 4.9 – 5.3 with citric acid. Mix until uniform.

Product Properties:

pH 4.9 – 5.3
Viscosity (mPa·s)*** 7,000 – 11,000
Yield Value (dyn/cm²) 150 – 250
Stability: Passed 3 months @ 45°C, 5 cycles freeze/thaw

Carbopol[®] * Aqua CC Polymer Actives (%) 1.4

Surfactant Actives (%) 10.7

*** Brookfield RVT @ 20 rpm, 25 °C, #5 spindle, measured after 24 hours

Supplier References:

Dow / Amerchol (2)

Noveon, Inc. (3, 4, 5, 6)

Arch Chemical (7)

Dow Corning (8)

Quantum Colours (9)

IFF (10)

Lonza (11)

Cosmetochem (12, 13, 14)

Aldrich (15)

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