

Clear Economy Shampoo

SH-0002

This shampoo is low cost formulation, with ingredients readily available in all most global regions. **Carbopol®* Ultrez 20 Polymer** imparts excellent clarity, flow characteristics and stability to the formulation.

	INCI Name, Trade Name	Weight %	Function
A.	1. Deionized Water	49.85	Diluent
	2. Acrylates/C10-30 Alkyl Acrylate Crosspolymer, Carbopol®* Ultrez 20 Polymer	1.00	Rheology Modifier
	3. Propylene Glycol	6.00	Humectant
	4. Sodium Laureth Sulfate (3 mole, 28%), Sulfochem™* ES-3 Surfactant	30.00	Surfactant
	5. Propylene Glycol, Diazolidinyl Urea, Methylparaben, Propylparaben, Germaben® II	1.00	Preservative
B.	6. Deionized Water	5.00	Diluent
	7. Benzophenone-4, Uvinul® MS-40	0.02	UV Absorber
	8. Disodium EDTA, Protachem NA2-P	0.10	Chelating Agent
C.	9. Sodium Hydroxide (18%)	2.80	Neutralizer
	10. Cocamidopropyl Betaine (35%), Chembetaine™* C Surfactant	4.00	Surfactant
	11. D&C Yellow No. 10 (0.5%)	0.006	Dye
	12. FD&C Yellow No. 6 (0.1%)	0.186	Dye
	13. D&C Red No. 33 (0.1%)	0.036	Dye
14. FD&C Blue No. 1 (0.1%)	0.002	Dye	

Procedure:

1. Disperse **Carbopol®* Ultrez 20 Polymer** by sprinkling on the surface of warm deionized water (~40°C) without mixing.
2. Begin gentle mixing when polymer is wetted.
3. Add propylene glycol. Mix until uniform. Add remaining ingredients in **PART A** in order.
4. Pre-combine **PART B** ingredients. Heat water to dissolve. Add **PART B** to **PART A**.
5. Add remaining ingredients in order to batch. Mix until uniform.

Product Properties:

Appearance Viscous, clear amber gel
pH 6.8 – 7.0
Viscosity (mPa s)** 5,000 – 7,000
Yield Value (dyn/cm²) 300 – 400
Turbidity (NTU)*** 10 – 15
Stability: Passed 3 months @45°C, 5 cycles freeze/thaw
Surfactant Actives (%) 9.6

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

*** HF Scientific, Inc. Micro 100 Turbidimeter

Supplier References:

Noveon, Inc. (2, 4, 10)
Dow/VWR (3)
ISP (5)
BASF (7)
Protameen (8)
Quantum Colours (11, 12, 13, 14)

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