

Title: Sulfate-Free Shampoo with Nourishing Oils

Formulation #: KL5-30/1

Luxurious shampoo formulation with gentle surfactants and nourishing plant oils providing moisturization. Upcycled Celltice™ enables the effective emulsification of oil in a cleansing system without negatively impacting foam. A perfect starting point for your upcoming clean haircare project with an upcycling twist!

Feature	Product Type	Product Function	Method
	Shampoo	Cleanser, Moisturization	Hot process

Key Ingredients

Trade Name	INCI Name	Wt%
Cleanser Phase		
Deionized Water	Water	30.80
Methocel™ 40-0101 PCG (Dow)	Hydroxypropyl Methylcellulose	0.50
Carbopol® Aqua SF-1 (Lubrizol)	Acrylates Copolymer	8.00
Nansa® LSS 38/U (Innospec)	Sodium C14-16 Olefin Sulfonate	20.00
Ixelux® LQ-CLR-SB (Innospec)	Sodium Lauroyl Methyl Isethionate	10.00
Chembetaine™ CGF (Lubrizol)	Cocomidopropyl Betaine	8.00
Ritapan D (Rita)	Panthenol	1.00
Potassium Hydroxide (Various)	Potassium Hydroxide	0.50
Oil Phase		
Joboba Oil (Various)	Simmondsia Chinensis (Jojoba) Seed Oil	8.80
AMA Oil (Centerchem)	Helianthus Annuus (Sunflower) Seed Oil (and) Amaranthus Caudatus Seed Extract (and) Diisostearyl Malate (and) Rosmarinus Officinalis (Rosemary) Leaf Extract	1.00

Borage Oil (Various)	Borago Officinalis Seed Oil	0.10
Evening Primrose Oil (Various)	Oenothera Biennis (Evening Primrose) Oil	0.10
Celltice® WM (Renmatix)	Water (and) Acer Rubrum Extract (and) Glycerin	5.00
Deionized Water	Water	5.00
Citric Acid (Various)	Citric Acid	0.20
Diocide™ (Centerchem)	Caprylyl Glycol (and) Phenoxyethanol (and) Hexylene Glycol	1.00

Instructions:

1. In main vessel, weigh water. Dissolve Ritapan D. Add Carbopol Aqua SF-1. Sprinkle in Methocel 40-101 with rapid mixing. Mix until uniform.
2. Add Chembetaine CGF. Mix until uniform. Add Potassium Hydroxide. Mix until uniform. Product will thicken and become more clear.
3. Reduce mixing speed, add Iselux LQ-CLR and Nansa LSS 38 AV. Mix until fully dissolved.
4. In a separate vessel add Celltice and the second deionized water (5%). Combine oils and homogenize. This may also be done in a blender.
5. Stir into room temperature batch with mild mixing with either a paddle or propeller. Use batch to remove any left over Celltice/Oil containing phase from auxilliary vessel. Add back to batch and stir until uniform. Add Citric Acid and Diocide.

pH: 6.3

Viscosity: 32,806 cps

*Brookfield LVDVII+ TF @ 6 rpm 1 min. Helipath on.

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