

Shampoo

The formulation that follows is for a shampoo based on PolySaf 5600 cationic polymer. As formulated, this shampoo provides these features:

- Luxurious foaming
- Exceptional rinsability and clean feel
- Enhanced luster and shine
- Excellent wet comb, wet feel performance

As a formulation ingredient, PolySaf 5600 provides these benefits:

- Supplied as a formulation-ready liquid emulsion to reduce handling and pre-mixing requirements
- Excellent carrier of lipophilic materials; substantive to hair
- Non-irritating
- Displays anti-static properties
- Supports development of foam in the presence of other ingredients

Demonstration Formulation (#1741809)

No.	Phase	Ingredient	INCI Name	% by Weight	Batch Size, g
1	A	Deionized Water	Water (Aqua)	44.88	448.78
2	A	Na ₂ EDTA	Disodium EDTA	0.10	1.00
3	A	Butylene Glycol	Butylene Glycol	2.00	20.00
4	A	PolySaf 5600	Butyl Acrylate/Ethyltrimonium Chloride Methacrylate/Styrene Copolymer	2.50	25.00
5	B	Monamid CMA	Cocamide MEA	2.00	20.00
6	B	Stepan EGMS	Glycol Stearate	1.50	15.00
7	C	Standapol A	Ammonium Lauryl Sulfate	25.00	250.00
8	C	Standapol ES-2	Sodium Laureth Sulfate	15.00	150.00
9	C	Velvetex BK-35	Cocamidopropyl Betaine	5.00	50.00
10	D	Shampoo Fragrance #3599 (Belle Aire)	Fragrance	0.15	1.50
11	E	Citric Acid - (50% Solution) - To pH 6.0-6.5	Citric Acid	0.04	0.42
12	F	NaCl (20% Solution)	Sodium Chloride	1.83	18.30
				100.00	1000.00

Manufacturing Instructions

- In phase A, dissolve item 2 in water; add items 3, 4; mix and heat to 70°C.
- In phase B, combine items 5 and 6; heat to 70°C; mix until fully melted.
- At 70°C, add phase B into phase A with agitation; mix until uniform.
- Start cooling; add phase C ingredients into the batch one by one with mild agitation.
- Cool to 40°C; add phase D; mix.
- Adjust pH to 6.0-6.5 with phase E as needed.
- Adjust viscosity to 7,000-15,000 cps with phase F as needed.

Properties as Formulated

Property	Value
pH	6.6
Foaming Volume Test	470/50
Rubber Stopper Foam, seconds	5
Viscosity, cps (Brookfield #4, 20 rpm, 30 sec)	8,000 (after 30 minutes)
Viscosity, cps (Brookfield #5, 20 rpm, 30 sec)	10,300 (after 12 hours)

Learn More About PolySāf 5600 Polymer; Request a Sample

For product information or to request samples, contact Lisa Droste of Mallard Creek Polymers at 1-800-547-0622, ext. 1091 or visit www.polysaf-polymers.com.

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Printed in USA
AGP9785
Issued 02-2009



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