



ELSURFAC – PSB20 G1™ (Polysorbate 20)

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	Amber, viscous liquid; paste (depending on grade)
Physical Form	Liquid
HLB value	Polysorbate 20- 16.7, Polysorbate 40-15.6, Polysorbate 60-14.9, Polysorbate 80-15.0
Odor	Mild alcoholic
Molecular Weight (g/mol)	428.6
Density or Specific Gravity	1.08 g/mL at 20 °C
Viscosity	300-500 cSt at 25 °C
Refractive Index	n ₂₀ /D 1.473
pH (if aqueous solution)	6-8 (5% aqueous solution)
Chemical Properties	
Solubility	Water-soluble, oil-dispersible
Thermal Properties	
Boiling Point	100 °C
Melting Point	-25 °C
Flash Point	> 300 °F

2. Processing Methods



Cosmetic cream

In cosmetic cream production, add Polysorbate 80 to the aqueous phase or pre-mix it with oils to aid emulsification and solubilization of oil-soluble ingredients. Heat both phases for uniform blending and stable emulsion formation.

Key Ingredients	Indicative Dosage (% w/w)
Oils/Emollients	5-20%
Polysorbate 80	1-10%
Emulsifiers	2-6%
Humectants (e.g., glycerin)	2-8%
Preservatives, Thickeners, pH adjusters, Fragrances etc.	

Hair shampoo

In hair shampoo production, add Polysorbate 80 to the aqueous phase to help solubilize essential oils or fragrances. Mix thoroughly at room temperature or mild heat to ensure clear, stable formulations.

Key Ingredients	Indicative Dosage (% w/w)
Sulphur	0.75%
Salicylic acid	0.5-1.75%
Benzoic acid	1.0-2.0 %
Sodium lauryl sulphate	20%
Urea	0.75%
Citric acid	0.5%
Sodium EDTA	0.5%
Guar gum	1.5%
Polysorbate 80	0.5%
Distilled water	60-70%



Soap

In soap production, add Polysorbates during the cooling phase to enhance solubilization of fragrances or oils. Stir gently to ensure uniform distribution and avoid destabilizing the emulsion or creating excess foam.

Key Ingredients	Indicative Dosage (% w/w)
Soap base	80-95%
Polysorbate 80	1-10%
Fragrance/Essential oil	1-5 %
Colorant	0.1-1%
Additives (e.g., glycerin, extracts)	1-5%
Water	

Makeup foundation lotion

In makeup foundation lotion production, add Polysorbates to the oil phase to help emulsify oils and disperse pigments evenly. Ensure thorough mixing before combining with the water phase to achieve a stable and smooth emulsion.

Key Ingredients	Indicative Dosage (% w/w)
Stearic acid	2%
Cetyl alcohol	4%
Paraffin liquid	20%
Dimethicone	5%
Polysorbate 80	3.65%
Propylparaben	0.02%
Propylene glycol	5%
Xanthan gum	0.3%
Methylparaben	0.18%
Distilled water	50-60%
Other additives	

3. Dosing by Application

Products	Authorized dosage
Cosmetic creams/ lotions	1-10%
Hair shampoo	1-10%
Body washes, cleansers	1-10%



The information and data contained herein are believed to be accurate but may not be all inclusive and should only be used as a guide. The information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the product for his particular use and on condition that they assume the risk of the use thereof.

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