



ELFAT – STO™ (Stearyl Alcohol)

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	White solid; flakes; granules; pellets
Physical Form	Granules
Molecular Weight (g/mol)	270.5
Density or Specific Gravity	0.812 g/mL at 25 °C (lit.)
Viscosity	4.006mm ² /s
Refractive Index	1.4356 (estimate)
Density	0.812 g/mL at 25 °C (lit.)
Chemical Properties	
pKa	15.20±0.10(Predicted)
Water Solubility	insoluble
Thermal Properties	
Melting Point	56-59 °C (lit.)
Boiling Point	210 °C15 mm Hg
Flash Point	185°C
Solvent	
Water	0%, Insoluble
Ethanol	Soluble
Diethyl Ether	Soluble
Benzene	Soluble
Chloroform	Soluble
Hexane, Toluene	Soluble

2. Processing Methods



Cosmetic creams

Add Stearyl Alcohol to the oil phase and heat until fully melted. It functions as a thickener and co-emulsifier, improving cream stability, texture, and providing a rich, velvety skin feel.

Key Ingredients	Indicative Dosage (% w/w)
Water (Purified)	70.00%
Stearyl Alcohol	4.00%
Cetyl Alcohol	3.00%
Glycerin	5.00%
Stearic Acid	3.00%
Glyceryl Monostearate	2.00%
Mineral Oil	5.00%
Dimethicone	2.00%
Triethanolamine (TEA)	1.00%
Methylparaben	0.20%
Propylparaben	0.10%
Fragrance	0.20%
Preservative	0.50%

Hair conditioning shampoo

Add Stearyl Alcohol to the oil or surfactant phase and heat until fully melted. It enhances viscosity, improves creaminess, and provides a soft, conditioning feel to the shampoo.

Key Ingredients	Indicative Dosage (% w/w)
Primary surfactants (SLES, SLS, ALES AETC.)	8-12 %
Secondary surfactants (CAPB, CMEA, CDEA, CAO etc.)	2-5%
Thickeners (Cetearyl Alcohol, Acrylates Copolymer, Carbomer etc.)	2-3%
Stearyl Alcohol	1-2%
Water	70-80%
Conditioners, Preservatives, Humectants, Colorants etc.	



Cleansers

In cleanser formulations, add Stearyl Alcohol to the oil or heated phase to function as a thickener and skin-conditioning agent. Combine well with surfactants to improve foam stability and skin feel. Cool gradually to prevent crystallization and ensure smooth consistency.

Key Ingredients	Indicative Dosage (% w/w)
Propylene Glycol	6%
Magnesium Aluminum Silicate	1%
Sodium Carboxymethyl Cellulose	0.1%
Glyoxyldiureide	0.5%
Stearyl Alcohol	1.5%
Cetyl Alcohol	3%
Glyceryl Monostearate & Polyethylene Glycol (100) Monostearate	2%
Polyoxyethylene (10) Soya Sterol	2.5%
Polyoxyethylene (3) Myristyl Ether Myristate	15%
Squalane	12%
Polydimethylcyclsiloxane (Silicone Fluid 344)	12%
Preservatives, Deionized Water	

Lip balm

Add Stearyl Alcohol to the oil phase of the lip balm and melt it with waxes and butters. It helps improve the balm's structure and stability while enhancing spreadability. Cool the mixture slowly to prevent graininess and maintain a uniform consistency.

Key Ingredients	Indicative Dosage (% w/w)
Petrolatum	30%
Beeswax	20%
Castor Oil	15%
Sweet Almond Oil	10%
Stearyl Alcohol	5%
Vitamin E	1%
Fragrance	0.5%
Tocopherol (Vitamin E)	0.5%
Preservative (e.g., Phenoxyethanol)	0.5%
Deionized Water	17.5%



3. Dosing by Application

Products	Authorized dosage
Lotions & Creams	0.1-3%
Shampoos & Conditioners	0.1-3%

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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