



Polypropylene Glycol

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	White to light grey liquid
Physical Form	Liquid
Density or Specific Gravity	1.01 g/mL at 20 °C
Viscosity	105mm ² /s
Refractive Index	n _{20/D} 1.451
Chemical Properties	
Water Solubility	<0.01 % (w/w) at 25 °C
Incompatibilities	Strong oxidizing agents, alkali metals, nitrides, strong reducing agents
Hazardous Reactions	Can form flammable/toxic gases with incompatible substances
Thermal Properties	
Boiling Point	>300 °C
Melting Point	-40 °C
Flash Point	230 °C
Thermal Stability	Stable under normal conditions; avoid strong oxidizers

2. Processing Methods



Cosmetic moisturizers

Add Polypropylene Glycol (PPG) to the water phase and heat for proper incorporation. It acts as a humectant and skin-conditioning agent, so ensure thorough mixing to achieve a uniform texture.

Key Ingredients	Indicative Dosage (% w/w)
Water (Purified)	75.00%
Glycerin	5.00%
Polypropylene Glycol (PPG)	5.00%
Cetyl Alcohol	2.00%
Stearyl Alcohol	2.00%
Dimethicone	1.00%
Methylparaben	0.20%
Propylparaben	0.10%
Triethanolamine (TEA)	0.50%
EDTA	0.10%
Potassium Hydroxide	0.30%
Fragrance	0.20%

Hair shampoo

Add Polypropylene Glycol (PPG) to the water or surfactant phase and heat to ensure proper solubilization. It enhances spreadability and conditioning, so mix thoroughly for even distribution in the shampoo.

Key Ingredients	Indicative Dosage (% w/w)
Sodium Lauryl Ether Sulfate (SLES)	12%
Cocamidopropyl Betaine	6%
Polypropylene Glycol	5%
Polyquaternium-67	1.5%
PEG-45M	1%
PEG-150 Distearate	1%
Glycerin	3%
Deionized Water	65%
Preservative, Fragrance, Citric Acid	



Liquid soaps

Add Polypropylene Glycol to liquid soap formulations during the cool-down phase to improve moisturizing properties and enhance skin feel. Ensure compatibility with anionic surfactants and maintain pH around 5.5-7 for optimal stability.

Key Ingredients	Indicative Dosage (% w/w)
Polypropylene Glycol	18.80%
Glycerol	6.27%
70% Sorbitol Solution	17.09%
Sodium Laureth Sulfate	30.23%
Stearic Acid	12.99%
Myristic Acid	6.05%
Lye (50% NaOH)	6.05%
Triethanolamine	2.49%

Hair conditioners

In hair conditioner formulations, add Polypropylene Glycol during the cool-down phase to enhance slip and conditioning without affecting viscosity. Use at 1-5% as a humectant, emollient, and slip enhancer, improving spreadability and hair feel.

Key Ingredients	Indicative Dosage (% w/w)
Cetearyl Alcohol	5%
Behentrimonium Chloride	2%
Polypropylene Glycol (PPG-9)	5%
Cetyl Alcohol	3%
Stearic Acid	1.5%
Dimethicone	1%
Glycerin	3%
Deionized Water	60-80%
Preservative, Fragrance, pH Adjuster	2.49%

3. Dosing by Application

Products	Authorized dosage
Cosmetics cream/lotions	Upto 50%
Hair care- Shampoo	Upto 50%

4. Grade Comparison Summary



Parameter	Cosmetic Grade
Molecular Weight Range	PPG-425 to PPG-1200
Purity	≥98-99%
Appearance	Clear to pale yellow liquid
Regulatory Compliance	INCI, REACH, FDA (cosmetics)
Applications	Lotions, shampoos, deodorants, creams

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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