

Benzophenone 3

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	White to yellowish powder
Physical Form	Powder
Molecular Weight (g/mol)	228.24
Density or Specific Gravity	1.3 g/cm3
Refractive Index	1.5805 (estimate)
Chemical Properties	
Water Solubility	<0.1 g/100 mL at 20 °C
Incompatibilities	Strong oxidizing agents
Hazardous Reactions	Stable under normal conditions; no hazardous decomposition under recommended use
Thermal Properties	
Melting Point	62-64 °C(lit.)
Boiling Point	150-160 °C at 5 mm Hg(lit.)
Flash Point	216°C
Thermal Stability	Stable under normal conditions
Solvent	
Water	~0.0075%
Ethanol	Soluble
Acetone	Soluble
Methanol	Soluble
Ether	Soluble
Chloroform	Soluble

2. Processing Methods



Cosmetic sunscreen

Dissolve Benzophenone-3 (Oxybenzone) in the oil phase to ensure full solubilization. Use appropriate emulsifiers to maintain stability and ensure uniform UV protection throughout the sunscreen.

Key Ingredients	Indicative Dosage (% w/w)
Water (Purified)	70.00%
Glycerin	5.00%
Stearic Acid	3.00%
Cetyl Alcohol	3.00%
Glyceryl Monostearate	2.00%
Benzophenone-3	2.00%
Dimethicone	2.00%
Triethanolamine	1.00%
Methylparaben	0.20%
Propylparaben	0.10%
Fragrance	0.20%
Preservative (e.g., Phenoxyethanol)	0.50%

Lip balm

In lip balm production, melt Benzophenone-3 into the oil or wax phase to ensure complete dissolution. Ensure even distribution by mixing thoroughly before pouring into molds to maintain consistent UV protection.

Key Ingredients	Indicative Dosage (% w/w)
Beeswax	30%
Petrolatum	25%
Shea Butter	20%
Caprylic/Capric Triglyceride	10%
Benzophenone-3	5%
Vitamin E (Tocopherol Acetate)	2%
Lanolin	7%
Flavor (e.g., Vanilla)	1%



Foundation cream

Add Benzophenone-3 to the oil phase of foundation cream formulations and heat gently to ensure full dissolution. Ensure good emulsification to evenly distribute the filter throughout the formula. Check for compatibility with other ingredients to avoid instability or crystallization.

Key Ingredients	Indicative Dosage (% w/w)
Cyclopentasiloxane	10%
Caprylic/Capric Triglyceride	8%
Titanium Dioxide	5%
Iron Oxides	4.5%
Glycerin	4%
Benzophenone-3	3%
Dimethicone	3%
Cetearyl Alcohol	2.5%
Glyceryl Stearate	2%
Preservative (e.g., Phenoxyethanol)	1%
Fragrance	0.5%
Water (Aqua)	60%

Hair Shampoo

Add Benzophenone-3 (Oxybenzone) to the oil phase or solubilize it with a suitable solubilizer before incorporating into the shampoo formulation. Ensure complete dispersion and stability, and adjust the pH (ideally 5.0-7.0) to maintain UV protection and formulation clarity.

Key Ingredients	Indicative Dosage (% w/w)
Sodium Laureth Sulfate	8.5%
Cocamidopropyl Betaine	3%
Glycerin	4%
Benzophenone-3	3%
Polyquaternium-10	0.5%
Citric Acid	0.2%
Sodium Benzoate	0.1%
Potassium Sorbate	0.2%
Fragrance	0.5%
Water (Aqua)	60%



3. Dosing by Application

Products	Authorized dosage %
Sunscreen Lotions, Creams	Upto 6%
Skin Care Creams, Lotions	Upto 6%
Lip stick/balm	Upto 6%

4. Grade Comparison Summary

Parameter	Cosmetic Grade
Purity (Assay)	≥ 98.0%
Appearance	Off-white to pale yellow powder
Stability (Photostability)	Moderate
Regulatory Compliance	INCI
Typical Applications	Facial sunscreens, SPF lotions, foundations

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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