



ELPROTECT – BZA™ (Benzoic Acid)

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	White to yellow-beige to orange Solid; powder; needles
Physical Form	Powder
Molecular Weight (g/mol)	122.12
Density	1.08
Refractive Index	1.504
pH	3.66(1 mM solution);3.12(10 mM solution);2.6(100 mM solution)
Chemical Properties	
pKa	4.19(at 25°C)
Water Solubility	Slightly soluble. 0.34 g/100 mL
Thermal Properties	
Boiling Point	249 °C(lit.)
Melting Point	121-125 °C(lit.)
Flash Point	250 °F
Solvent Solubility	
Water	~0.29%
Ethanol	Soluble
Methanol	Soluble
Acetonitrile	Soluble
Ethyl acetate	Soluble
Dichloromethane	Soluble

2. Processing Methods



Hair Anti-Dandruff Shampoo

Add benzoic acid during the cooling phase to avoid degradation and maintain stability.

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%
Tween 80	0.5%
Distilled water	65-75%

Cosmetic Ointment

Use benzoic acid in combination with emulsifiers to improve its distribution in semi-solid bases. Always verify the final pH of the ointment to ensure it remains within the effective antimicrobial range.

Key Ingredients	Indicative Dosage (% w/w)
10-12%	
Salicylic acid	0.5%
White vaseline	62%
Stearic acid	10%
Castor oil	4%
Camphor	1%
Sodium dodecyl benzene sulfonate	0.9%
Ethylparaben	0.1%



Facial cleansers

Add Benzoic Acid to the water phase of facial cleanser formulations. Dissolve it fully with gentle heating if needed, and pair with other preservatives for broad-spectrum protection.

Key Ingredients	Indicative Dosage (% w/w)
65%	
3%	
Sodium Lauroyl Sarcosinate (30% in water)	4.4%
Benzoic Acid	0.2%
Disodium EDTA	0.1%
PEG-200 Hydrogenated Glyceryl Palmate	0.3%
PEG-7 Glyceryl Cocoate	0.3%
PEG-75	2%
Fragrance	0.25%
Citric Acid	0.8%

Moisturizing lotion

Add Benzoic Acid to the water phase of the moisturizer. Dissolve it with gentle heating if necessary, and consider combining it with other preservatives to broaden antimicrobial coverage.

Key Ingredients	Indicative Dosage (% w/w)
5%	
Stearic Acid	3%
Cetyl Alcohol	2%
Dimethicone	2%
Propylene Glycol	3%
Benzoic Acid	0.2%
Phenoxyethanol	0.5%
Tocopherol (Vitamin E)	0.1%
Fragrance	0.2%
Citric Acid	0.1%
Aqua	80-90%

3. Dosing by Application



Products	Authorized dosage %
Ointments/Creams	0.5-2.5%
Sunscreen	0.2-0.5%
Hair Shampoo	0.2-2.5%

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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