



ELPROTECT - NaBZ™ (Sodium Benzoate)

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	White powder; granules
Physical Form	Powder
Molecular Weight (g/mol)	144.1
Density or Specific Gravity	1,44 g/cm ³
pH (if aqueous solution)	7.0-8.5 (25°C, 1M in H ₂ O)
pH	7.0-8.5 (25°C, 1M in H ₂ O)
Chemical Properties	
pKa	4.03[at 20 °C]
Water Solubility	H ₂ O: 1 M at 20 °C
Incompatibilities	Oxidisers
Thermal Properties	
Melting Point	>300 °C (lit.)
Flash Point	>100°C
Solvent	
Water	~62.8% at 25°C
Ethanol	2.3% (2.3 g/100 g) at 25°C
Methanol	8.2% (8.22 g/100 g) at 15°C
Diethyl Ether	Practically insoluble

2. Processing Methods



Cosmetic creams

Dissolve sodium benzoate in the water phase before emulsification to ensure uniform distribution. Add it before emulsification to ensure even distribution. Check final pH and adjust if needed for optimal preservation.

Key Ingredients	Indicative Dosage (% w/w)
Water (Purified)	75.00%
Glycerin	5.00%
Stearic Acid	3.00%
Cetyl Alcohol	3.00%
Mineral Oil	5.00%
Glyceryl Monostearate	3.00%
Sodium Benzoate	0.50%
Triethanolamine (TEA)	1.00%
Methylparaben	0.20%
Propylparaben	0.10%
Fragrance	0.20%
Preservative (Phenoxyethanol or similar)	0.50%

Hair conditioning shampoo

Dissolve sodium benzoate in the aqueous phase before blending with other ingredients to ensure even distribution. Maintain the shampoo's final pH between 4.5 and 5.5, as sodium benzoate is only effective as a preservative in acidic conditions.

Key Ingredients	Indicative Dosage (% w/w)
Sodium Myreth Sulfate	10%
Ethylhexyl Methoxycinnamate	0.3%
Sodium Benzoate	0.5%
Water	80-90%
Color, perfume, preservative, (Other surfactants, hydrotropes, etc.)	



Facial cleansers

Add Sodium Benzoate to the water phase of facial cleanser formulations and ensure it is fully dissolved, using mild heat if needed. Add it before combining with surfactants for uniform distribution. Ensure the final formulation maintains an acidic pH for optimal antimicrobial activity.

Key Ingredients	Indicative Dosage (% w/w)
65%	
3%	
Sodium Lauroyl Sarcosinate (30% in water)	4.4%
Sodium Benzoate	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%

Hair Conditioners

Add Sodium Benzoate to the water phase of hair conditioner formulations, ensuring complete dissolution with gentle heating if necessary. Incorporate before emulsification to ensure even distribution.

Key Ingredients	Indicative Dosage (% w/w)
Behentrimonium Chloride	2%
Cetyl Alcohol	3%
Stearyl Alcohol	2%
Caprylyl Glycol	0.5%
Glyceryl Caprylate	0.5%
Sodium Benzoate	0.2%
Phenoxyethanol	0.5%
Citric Acid	0.3%
Fragrance	0.2%
Water (Aqua)	70%

3. Dosing by Application



Products	Authorized dosage
Lotions & Creams	Upto 0.5%
Shampoos & Conditioners	Upto 2.5%

4. Grade Comparison Summary

Parameter	Food Grade
Purity	≥99.0%
Appearance	White crystalline powder or granules
Odor	Odorless
Solubility in Water	Freely soluble
Regulatory Compliance	FCC, GRAS
Common Applications	Beverages, sauces, pickles, condiments

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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