



ELPROTECT - 4NaEDTA™ (Tetra Sodium EDTA)

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	White crystalline solid; granules; flakes
Physical Form	Granules
Molecular Weight (g/mol)	380.17
Density or Specific Gravity	6.9 lb/gallon
Density	6.9 lb/gallon
pH	Approximately 11.3
Chemical Properties	
Water Solubility	0.1 g/mL
Incompatibilities	Strong oxidizing agents.
Hazardous Reactions	Decomposes with strong oxidizers, acids, or metals; may release ammonia, nitrogen oxides
Thermal Properties	
Melting Point	>300 °C(lit.)
Flash Point	350°C
Thermal Stability	Stable under recommended storage; decomposes at elevated temperatures
Solvent	
Water	>50%
Ethanol	Insoluble
Oils	Insoluble

2. Processing Methods



Hair Shampoo

Add tetrasodium EDTA during the water phase of shampoo production to effectively chelate metal ions and improve product stability. Ensure it's fully dissolved before adding surfactants to avoid interaction issues.

Key Ingredients	Indicative Dosage (% w/w)
Water (Purified)	60%
Sodium Laureth Sulfate	15.00%
Cocamidopropyl Betaine	10.00%
Glycerin	5.00%
Sodium Chloride	2.00%
Tetrasodium EDTA	0.20%
Citric Acid (pH adjuster)	0.30%
Polyquaternium-10	0.50%
Preservative (e.g., Phenoxyethanol)	0.50%
Fragrance	0.50%
Panthenol (Provitamin B5)	3%



Cosmetic cream

In cream formulations, add tetrasodium EDTA to the aqueous phase and heat with it to ensure complete dissolution. Add it before emulsification to ensure even distribution. Ensure the final pH is above 4 for optimal stability and chelating performance.

Key Ingredients	Indicative Dosage (% w/w)
Water (Purified)	65-75%
Caprylic/Capric Triglyceride	7%
Cetearyl Alcohol	4%
Glyceryl Stearate	3%
Glycerin	5%
Dimethicone	2%
Tetrasodium EDTA	0.1%
Phenoxyethanol + Ethylhexylglycerin	1%
Niacinamide	2%
Panthenol (Provitamin B5)	1%
Carbomer	0.3%
Fragrance, Sodium Hydroxide (10% solution)	



Hair Conditioner

In hair conditioner formulations, dissolve Tetrasodium EDTA in the water phase at room temperature before emulsification to improve stability and prevent metal ion-induced product degradation. Maintain final pH above 4 to ensure EDTA remains effective.

Key Ingredients	Indicative Dosage (% w/w)
Water (Purified)	70-80%
Cetearyl Alcohol	5%
Behentrimonium Chloride	4%
Cetyl Alcohol	3%
Dimethicone	2%
Glycerin	3%
Tetrasodium EDTA	0.1%
Preservative (e.g., Phenoxyethanol)	1%
Panthenol (Pro-Vitamin B5)	1%
Hydrolyzed Keratin	1%
Citric Acid, Fragrance	

Cleanser

Add Tetrasodium EDTA early in the water phase of the cleanser formulation to ensure effective chelation of metal ions. Add early during mixing to ensure even distribution. Maintain the formulation pH above 4 for optimal EDTA performance.

Key Ingredients	Indicative Dosage (% w/w)
Water (Purified)	65-75%
Sodium Laureth Sulfate (SLES, 28%)	15%
Cocamidopropyl Betaine	8%
Glycerin	3%
Cocamide DEA	3%
Tetrasodium EDTA	0.1%
Preservative (e.g., Phenoxyethanol)	0.8%
Fragrance, Citric Acid	

3. Dosing by Application



Products	Authorized dosage %
Ointments/Creams	0.1-0.5%
Hair Formulations	0.1-0.5%

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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