



ELRASA - NaBCT G2™ (Sodium Bicarbonate)

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	White Crystals
Physical Form	Crystals
Odor	Odorless
Molecular Weight	84.007 g/mol
Density / Specific Gravity	2.20 g/cm ³
Viscosity	Not applicable
Refractive Index	n α = 1.377, n β = 1.501, n γ = 1.583
pH (1% Aqueous Solution)	8.8 Max.
Assay / Purity	99.20% Min. (as Total Alkalinity, NaHCO ₃)
Chemical Properties	
pKa	6.351 (for carbonic acid)
Ionic Nature	Ionic compound; dissociates in water into sodium (Na ⁺) and bicarbonate (HCO ₃ ⁻) ions.
Incompatibilities	Reacts with acids, releasing carbon dioxide. Stable in dry air, but slowly decomposes in moist air. Incompatible with strong oxidizing agents.
Hazardous Decomposition Products	When heated, decomposes to sodium carbonate (Na ₂ CO ₃), water (H ₂ O), and carbon dioxide (CO ₂).
Thermal Properties	
Melting Point	Decomposes on heating.
Boiling Point	Not applicable; decomposes before boiling.
Flash Point	Incombustible / Not applicable.
Autoignition Temperature	Not applicable.
Decomposition Temperature	Begins to decompose starting at 50 °C (122 °F). The conversion is faster at 200 °C (392 °F).
Thermal Stability	Stable under normal conditions but decomposes upon heating above 50°C.
Solubility	
Solubility in Water	96 g/L (at 20 °C)



Property	Specification
Solubility in Ethanol	Insoluble.
Solubility in Methanol	2.13 wt% (at 22 °C)
Solubility in Acetone	0.02 wt%
Solubility in Diethyl Ether	Practically insoluble.
Solubility in Glycerol	Soluble.

2. Processing Methods

Basic Bath Bomb

A simple formulation that produces effervescence when added to water, releasing citric acid and sodium bicarbonate.

Key Ingredients	Indicative Dosage (% w/w)
Sodium Bicarbonate	50.0%
Citric Acid	25.0%
Corn Starch	12.5%
Epsom Salt (Magnesium Sulfate)	12.5%
Fragrance/Essential Oil	q.s.
Colorant	q.s.

Baking Powder (Double-Acting)

A leavening agent for baked goods that releases carbon dioxide gas at two different stages: once when it becomes moist, and again when heated.

Key Ingredients	Indicative Dosage (% w/w)
Corn Starch	43.0%
Sodium Bicarbonate	30.0%
Monocalcium Phosphate	22.0%
Sodium Aluminum Sulfate	5.0%

3. Dosing by Application

Application	Recommended / Max Dosage
Leavening Agent in Baked Goods	0.5% - 2.0% of flour weight
pH Regulator in Beverages	Quantum satis (as needed to achieve desired pH)
Effervescent Tablets	20% - 40%



Application	Recommended / Max Dosage
Antacid Formulations	500 mg - 2000 mg per dose
Dry-Mix Beverages	Quantum satis (used with an acid to produce carbonation)

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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