



ELAROMA – SilDiox™ (Silicon Dioxide)

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	White, odorless, fluffy powder
Physical Form	White, odorless, fluffy powder
Odor	Without odor
Molecular Weight	60.08 g/mol
Density / Specific Gravity	Density: 2.65 g/cm ³
pH (aqueous solution)	6.00 - 9.00
Assay / Purity	≥ 94.00% (as SiO ₂)
Chemical Properties	
Incompatibilities	Hydrofluoric Acid, fluorine, oxygen difluoride, chlorine trifluoride, strong hot alkali solutions.
Hazardous Reactions / Decomposition Products	Hazardous polymerization will not occur. When heated to extreme temperatures, decomposition may produce silicon oxides.
Thermal Properties	
Melting Point	1713°C
Boiling Point	2950°C
Flash Point	Not combustible.
Decomposition Temperature	Decomposes at approximately 2750 K (~2477°C) into elemental silicon and oxygen.
Thermal Stability	Stable under recommended storage conditions.
Solubility	
Solubility in Water	Insoluble. (A quantitative value of 0.12 g/L is also reported by Jebsen & Jessen Ingredients).
Solubility in Methanol	Essentially insoluble.

2. Processing Methods



Powdered Drink Mix

A typical powdered beverage mix designed for easy dissolution and flowability. Silicon dioxide acts as an anti-caking agent to prevent clumping from moisture and sugar content.

Key Ingredients	Indicative Dosage (% w/w)
Sugar (Sucrose)	85.0%
Citric Acid	5.0%
Natural Flavor Powder	4.0%
Ascorbic Acid (Vitamin C)	3.0%
Food Coloring Powder	2.0%
Silicon Dioxide	1.0%

Spice & Seasoning Blend

A general-purpose savory seasoning blend where free-flowing properties are critical for consumer use. Silicon dioxide prevents the hygroscopic salt and sugar from caking.

Key Ingredients	Indicative Dosage (% w/w)
Salt (Sodium Chloride)	40.0%
Paprika Powder	15.0%
Garlic Powder	15.0%
Onion Powder	12.5%
Black Pepper, ground	10.0%
Sugar (Dextrose)	6.0%
Silicon Dioxide	1.5%

3. Dosing by Application

Application	Recommended / Max Dosage
General Food Products (as anti-caking agent)	Not to exceed 2% by weight of the food (per FDA 21 CFR 172.480).
Powdered Foods (e.g., spices, salt, sugar, drink mixes)	Typically 0.5% - 2.0%.
Table Salt	1.0% - 1.5%.
Dried Powdered Foods (EU Regulation)	Maximum 10 g/kg (1.0%) (per Regulation (EC) No 1333/2008).
Nutrient Preparations for Infants/Young Children (EU)	Maximum 10,000 mg/kg (1.0%) (per Regulation (EC) No 1333/2008).



Application	Recommended / Max Dosage
Complementary Foods for Infants/Young Children (Codex)	2,000 mg/kg (0.2%).
Dried Whey and Whey Products (Codex)	10,000 mg/kg (1.0%).

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.

EXPLORE ELCHEMY'S PRODUCT PORTFOLIO

[ELAROMA - SilDiox™ \(Silicon Dioxide\)](#) | [Browse Catalog](#) | [Connect with us](#)