



ELRASA - Kaolin™ (Kaolin)

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	fine white powder
Physical Form	Fine White Powder
Odor	Odorless when dry; develops an earthy or clay-like odor when wet.
Molecular Weight	258.16 g/mol
Density	2.6 g/cm ³
Specific Gravity	2.58 - 2.63
Viscosity	Not a property of the dry powder. In aqueous slurries, viscosity is highly dependent on solids concentration, pH, and the presence of dispersants. Slurries are typically shear-thinning.
Refractive Index	1.55 - 1.62
pH (aqueous solution)	6.0 - 8.0 (in slurry)
Assay / Purity	Technical grades are primarily composed of the mineral kaolinite but contain other minerals as impurities. A typical composition is: SiO ₂ : 55-58%, Al ₂ O ₃ : 33-35%, Fe ₂ O ₃ : 0.1%.
Chemical Properties	
pKa	No reliable source found.
Ionic Nature	Electrostatically neutral between layers with a low cation-exchange capacity. Surface charge is pH-dependent.
Incompatibilities	Strong oxidizing agents.
Hazardous Reactions / Decomposition Products	Material is stable under normal conditions. No hazardous decomposition products are known.
Thermal Properties	
Melting Point	740-1785 °C
Boiling Point	Not applicable; decomposes.
Flash Point	Not applicable; non-combustible solid.
Autoignition Temperature	Not applicable.
Decomposition Temperature	Dehydroxylation to metakaolin occurs at approximately 400 - 550 °C.



Property	Specification
Thermal Stability	Thermally stable up to approximately 600 °C.
Solubility	
Solubility in Water	Practically insoluble.
Solubility in Ethanol	Practically insoluble.
Solubility in Methanol	Practically insoluble in organic solvents.
Solubility in Acetone	Practically insoluble in organic solvents.
Solubility in Diethyl Ether	Practically insoluble.
Solubility in Glycerol	No reliable source found.
Solubility in Chloroform	No reliable source found.
Solubility in Benzene	No reliable source found.
Solubility in Dilute Acids	Practically insoluble.
Solubility in Alkali Hydroxides	Practically insoluble.

2. Processing Methods

Creamy Clay Face Mask (Anhydrous)

An oil-based, creamy mask that is easy to apply and rinses off cleanly with water.

Key Ingredients	Indicative Dosage (% w/w)
Safflower Oil	47.5%
French Green Clay	40%
Cetyl Alcohol	5%
Emulsifying Wax NF	7%
Vitamin E Oil	0.5%



Rich Mud Mask

A rich, oil-based mask designed to moisturize while drawing out impurities.

Key Ingredients	Indicative Dosage (% w/w)
Bentonite Clay	42.4%
Kaolin Clay	18.6%
Rhassoul Clay	18.6%
Meadowfoam Oil	16.9%
Tamanu Oil	1.7%
Vitamin E Oil	1.7%
Buckthorn Extract	0.17%

Moisturizing Clay Mask

A water-based clay mask formulation designed for skin moisturizing, optimized from a simplex lattice design study.

Key Ingredients	Indicative Dosage (% w/w)
Niacinamide	2.5%
Alpha Arbutin	1.0%
Ceramide	2.5%
Hyaluronic Acid	0.5%
Kaolin	0.8%
Bentonite	0.2%
Glycerin	3.3%
Propylene Glycol	7.7%
Xanthan Gum	1.1%
Phenoxyethanol	0.5%
Coffee Essence	q.s.
Distilled Water	ad 100%

3. Dosing by Application

Application	Recommended / Max Dosage
Cosmetics (General)	4% - 20%
Face Masks	10% - 40%



Application	Recommended / Max Dosage
Face Powders	Up to 15%
Lipsticks	Up to 14.5%
Eye Shadows	Up to 8.5%
Paints (as extender)	2% - 15% of total pigment
Paper (as filler)	10% - 15% of total solids
Paper (as coating)	20% - 30% of coating formulation
Agriculture (foliar spray)	2% - 5% solution (2-5 kg per 100 L water)

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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