

Product Specification Sheet

Muscovite (Mica)

1. General Description

Muscovite (Mica) is a naturally occurring potassium aluminum silicate mineral. It is widely used in industrial applications due to its excellent thermal stability, dielectric properties, and resistance to environmental degradation.

2. Product Details

- Chemical Name: Potassium Aluminum Silicate Hydroxide Fluoride
 - Formula: $KAl_2(Si_3Al)O_{10}(OH,F)_2$
 - CAS Number: 12001-26-2
 - Appearance: Transparent or translucent flakes, sheets, or powder
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3. Physical and Chemical Properties

Property	Specification
Color	Clear, light green, or brown
Density	~2.8 g/cm ³
Hardness (Mohs)	2.0 - 2.5
Thermal Stability	Up to ~600°C (stable)
Melting Point	~1,200°C (decomposes)
pH (in water)	Neutral (~7)
Water Solubility	Insoluble
Dielectric Strength	Excellent

Property	Specification
Flake Thickness	Typically <0.5 mm

4. Chemical Composition

Component	Range (% by Weight)
SiO ₂ (Silicon Dioxide)	45 - 55
Al ₂ O ₃ (Aluminum Oxide)	30 - 35
K ₂ O (Potassium Oxide)	8 - 10
H ₂ O (Water of Crystallization)	2 - 4
Impurities (e.g., Quartz, Feldspar)	<5

5. Application Areas

- Industrial Applications:
 - Insulators in electrical and thermal systems
 - Fillers in plastics, paints, and coatings
 - Reinforcement in polymers and rubbers
 - Drilling fluids in the oil and gas industry
 - Cosmetics:
 - Shimmering agents in makeup and personal care products
 - Construction:
 - Fireproof and soundproof boards
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6. Packaging and Storage

- Packaging:
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- 25 kg or 50 kg bags, jumbo bags, or custom packaging upon request.
 - Storage Conditions:
 - Store in a cool, dry, and well-ventilated area.
 - Avoid exposure to moisture to prevent clumping of flakes or powder.
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7. Quality Standards and Certifications

- Compliance:
 - Meets ISO standards for industrial-grade mica.
 - REACH and RoHS compliant.
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8. Safety and Handling

- Minimize dust formation during handling.
 - Wear appropriate personal protective equipment (PPE) such as gloves and dust masks.
 - Refer to the Material Safety Data Sheet (MSDS) for detailed safety information.
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9. Typical Particle Size Distribution (for Powder Form)

Mesh Size (Microns) Percentage Passing (%)

100 mesh (150 μm) ≥ 95

200 mesh (75 μm) ≥ 80

325 mesh (45 μm) ≥ 50

10. Special Properties

- High Thermal Resistance: Ideal for heat-resistant applications.
 - Electrical Insulation: Suitable for use in capacitors and electrical boards.
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- Chemical Inertness: Resistant to acids, alkalis, and solvents.
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11. Product Availability

- Available as:
 - Flakes
 - Powder (fine, medium, and coarse grades)
 - Sheets
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12. Notes

- Customization of grades and specifications is available upon request.
- Test certificates and samples are provided upon order confirmation.

For further inquiries, contact:

ATDM