Material Safety Data Sheet (MSDS)
Muscovite (Mica)

Date Prepared: 2024-12-27

SECTION 1: IDENTIFICATION

- **Product Name:** Muscovite (Mica)
- **Chemical Name:** Potassium Aluminum Silicate Hydroxide Fluoride
- **CAS Number:** 12001-26-2
- **Synonyms:** Mica, Muscovite Mica, Potassium Mica

SECTION 2: HAZARD IDENTIFICATION

- **Hazard Classification:** Non-hazardous under normal conditions.
- **Health Hazards:**
  - Prolonged inhalation of mica dust may cause respiratory irritation or lung damage (e.g., pneumoconiosis).
  - Can cause skin and eye irritation.
- **Signal Word:** Warning
- **Hazard Statements:**
  - H315: Causes skin irritation.
  - H320: Causes eye irritation.
  - H335: May cause respiratory irritation if inhaled in dust form.
- **Precautionary Statements:**
  - P261: Avoid breathing dust.
  - P280: Wear protective gloves and eye protection.
  - P305 + P351 + P338: If in eyes, rinse cautiously with water for several minutes.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- **Chemical Composition:**
  - Potassium Aluminum Silicate Hydroxide Fluoride
  - Molecular Formula: KAl2(Si3Al)O10(OH,F)2
- **Impurities/Additives:** May contain small amounts of quartz or feldspar.

SECTION 4: FIRST AID MEASURES

- **Inhalation:** Move to fresh air. Seek medical attention if symptoms persist.
- **Skin Contact:** Wash with soap and water. Seek medical attention if irritation occurs.
- **Eye Contact:** Rinse with plenty of water for at least 15 minutes. Remove contact lenses if applicable. Seek medical advice if irritation persists.
- **Ingestion:** Rinse mouth. Do not induce vomiting. Seek medical attention if symptoms develop.

SECTION 5: FIRE-FIGHTING MEASURES

- **Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire (e.g., water, foam, CO_2).
- **Fire Hazards:** Mica is non-combustible and does not pose a fire hazard.
- **Protective Equipment:** Firefighters should wear appropriate protective gear and self-contained breathing apparatus (SCBA).

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal Precautions:**
  - Wear respiratory protection to avoid inhalation of dust.
  - Avoid contact with skin and eyes.
- **Environmental Precautions:**
  - Prevent mica dust from entering waterways.
- **Cleanup Methods:**
  - Sweep or vacuum the material. Avoid creating airborne dust. Dispose of in accordance with local regulations.

SECTION 7: HANDLING AND STORAGE

- **Handling:**
  - Minimize dust generation and accumulation.
  - Use in well-ventilated areas.
- **Storage:**
  - Store in a dry, cool, and well-ventilated area.
  - Keep containers tightly closed.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Exposure Limits:**
  - OSHA PEL: 20 mppcf (million particles per cubic foot)
  - ACGIH TLV: 3 mg/m^3 (respirable fraction)
- **Engineering Controls:**
  - Use local exhaust or general ventilation to maintain exposure below permissible limits.
- **Personal Protective Equipment (PPE):**
  - Respiratory Protection: NIOSH-approved dust respirator.
  - Eye Protection: Safety goggles.
  - Skin Protection: Gloves and protective clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** Transparent or translucent sheets, flakes, or powder
- **Odor:** Odorless
- **pH:** Not applicable
- **Melting Point:** ~1,200°C (decomposes)
- **Boiling Point:** Not applicable
- **Density:** ~2.8 g/cm^3
- **Solubility:** Insoluble in water
- **Flash Point:** Not applicable

SECTION 10: STABILITY AND REACTIVITY

- **Stability:** Stable under normal conditions.
- **Conditions to Avoid:** Avoid exposure to strong acids and bases.
- **Hazardous Decomposition Products:** None under normal use.

SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute Toxicity:** Not toxic in solid form; dust may cause irritation.
- **Chronic Effects:** Prolonged inhalation of dust can cause respiratory issues.
- **Carcinogenicity:** Not classified as a carcinogen.
- **Other Information:** Long-term exposure to high levels of mica dust may contribute to pneumoconiosis.

SECTION 12: ECOLOGICAL INFORMATION

- **Ecotoxicity:** Not hazardous to the environment.
- **Persistence and Degradability:** Inert and non-biodegradable.
- **Bioaccumulative Potential:** Not expected to bioaccumulate.

SECTION 13: DISPOSAL CONSIDERATIONS

- **Waste Disposal:** Dispose of mica waste in accordance with local, regional, and national regulations.
- **Packaging:** Ensure containers are empty and free from dust before disposal.

SECTION 14: TRANSPORT INFORMATION

- **UN Number:** Not applicable
- **Transport Hazard Class:** Not regulated
- **Packing Group:** Not applicable

SECTION 15: REGULATORY INFORMATION

- **Regulatory Compliance:**
  - OSHA: Hazardous under dust exposure conditions.
  - TSCA: Listed
  - REACH: Compliant

SECTION 16: OTHER INFORMATION

- **Prepared By:** ATDM
- **Revision Date:** 2024-12-27
- **Disclaimer:** The information provided in this MSDS is based on current knowledge and intended for health, safety, and environmental considerations. No warranty is implied regarding the material's suitability for a particular purpose.