

ALUMINIUM SULPHATE

Product Name: Aluminium Sulphate

Synonyms: Aluminum sulfate; Alum; Cake alum

Chemical Formula: $\text{Al}_2(\text{SO}_4)_3$

CAS Number: 10043-01-3

1. Identification of the Substance/Preparation and Company

- **Product Name:** Aluminium Sulphate
 - **Use:** Water treatment, paper manufacturing, mordant in dyeing, etc.
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2. Hazards Identification

- **Classification:** Irritant (Xi)
 - **Hazard Statements:**
 - Irritating to eyes, skin, and respiratory tract.
 - **Routes of Exposure:** Inhalation, skin/eye contact, ingestion.
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3. Composition/Information on Ingredients

| Component | CAS Number | Concentration |
|--------------------|------------|---------------|
| Aluminium Sulphate | 10043-01-3 | 100% |

4. First Aid Measures

- **Inhalation:** Move to fresh air. Seek medical attention if symptoms persist.
 - **Skin Contact:** Wash with soap and water. Remove contaminated clothing.
 - **Eye Contact:** Rinse immediately with water for at least 15 minutes. Seek medical attention.
 - **Ingestion:** Rinse mouth, do not induce vomiting. Seek medical advice.
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5. Firefighting Measures

- **Suitable Extinguishing Media:** Water spray, foam, dry chemical, CO₂
 - **Hazards:** May release sulfur oxides when heated to decomposition.
 - **Protective Equipment:** Full protective clothing and self-contained breathing apparatus (SCBA)
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6. Accidental Release Measures

- **Spill Cleanup:** Use PPE. Avoid generating dust. Sweep up and place in suitable container.
 - **Environmental Precautions:** Prevent from entering water sources or sewers.
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7. Handling and Storage

- **Handling:** Avoid contact with eyes and skin. Use in well-ventilated areas.
 - **Storage:** Store in a dry, cool, and well-ventilated area. Keep container tightly closed.
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8. Exposure Controls / Personal Protection

- **Occupational Exposure Limits:**
 - ACGIH TLV: Not established for Aluminium Sulphate
 - **Engineering Controls:** Local exhaust ventilation.
 - **PPE:**
 - Eye protection: Safety goggles
 - Skin protection: Gloves and lab coat
 - Respiratory protection: Dust mask or respirator if dust is generated
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9. Physical and Chemical Properties

- **Appearance:** White to gray solid, powder or lumps
- **Odor:** Odorless
- **pH (10% solution):** ~3.0
- **Melting Point:** Decomposes before melting
- **Solubility:** Soluble in water
- **Boiling Point:** Not applicable
- **Density:** ~2.7 g/cm³

10. Stability and Reactivity

- **Stability:** Stable under normal conditions
 - **Conditions to Avoid:** Moisture, heat, incompatible materials
 - **Incompatible Materials:** Strong bases, finely powdered metals
 - **Hazardous Decomposition Products:** Sulfur oxides
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11. Toxicological Information

- **Acute Toxicity:**
 - LD50 (oral, rat): ~6207 mg/kg
 - **Irritation:** May cause irritation to eyes, skin, respiratory tract
 - **Chronic Effects:** No known significant effects in normal use
 - **Carcinogenicity:** Not listed by IARC, NTP, or OSHA
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12. Ecological Information

- **Ecotoxicity:** Harmful to aquatic life in high concentrations
 - **Persistence and Degradability:** Dissolves in water, undergoes hydrolysis
 - **Bioaccumulation:** Not expected
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13. Disposal Considerations

- **Waste Disposal:** Dispose of according to local, regional, national, and international regulations.
 - **Packaging:** Dispose of container in accordance with environmental regulations.
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