

1. PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Aluminum Nitrate
Chemical Formula: $\text{Al}(\text{NO}_3)_3 \cdot \text{H}_2\text{O}$
Manufacturer Item Number: AL-0095
Manufacturer: Lorad Chemical Corporation
 1200 19th Street North
 Saint Petersburg, Florida, 33713
 United States of America
Telephone: +1 (727) 826-5511
Fax: +1 (727) 826-5510
Emergency Contact: (800) 255-3924 (US & Canada)
 +1 (813) 248-0573 (International)

2. HAZARD IDENTIFICATION

Signal Word: Warning

Pictograms:



Hazard Statements:
 H272 May intensify fire; oxidizer.
 H303 May be harmful if swallowed.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.

Precautionary Statements:
 P210+220 Keep away from heat, combustible, and incompatible materials.
 P221 Take any precaution to avoid mixing with reducing agents, combustible materials, and organic materials.
 P264 Wash hands and other skin areas exposed to material thoroughly after handling.
 P280 Wear protective gloves / protective clothing / eye protection.
 P370+378 In case of fire: Use large amounts of water as extinguishing media.
 P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P302+352 IF ON SKIN: Wash with plenty of soap and water.
 P321+312 Specific treatment: Call a POISON CENTER or physician if you feel unwell.
 P332+337+313 If skin irritation occurs if eye irritation persists: Get medical attention.
 P362 Take off contaminated clothing and wash before reuse.
 P501 Dispose of contents and containers in accordance with national and local regulations.

HMIS Ratings (0-4)

- Health: 2
 - Flammability: 0
 - Physical: 1

3. COMPOSITION

Additional Names: Aluminum Nitrate Nonahydrate, Aluminum Nitrate ASC Grade
Percentage: 100 wt%

CAS #: 7784-27-2

EC #: 236-751-8

4. FIRST AID PROCEDURES

General Treatment	Consult a physician. Show this SDS to the doctor in attendance.
Special Treatment:	Absorption of this material into the body may cause cyanosis. Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobinemia concentration in the blood. The use of Calcium Disodium EDTA as a chelating agent should be determined by qualified medical personnel.
Important Symptoms:	Consult Section 11, for acute and chronic symptoms.
Inhalation:	If breathing in, move person into fresh air immediately. If not breathing or breathing is difficult or irregular, administer oxygen, if respiratory arrest occurs, give artificial respiration. Do not use mouth-to-mouth method if victim inhaled the substance, instead give artificial respiration using a mask equipped with a one-way valve or other proper respiratory medical device. Immediately contact a physician or poison center for instructions.
Ingestion:	Rinse mouth with water if victim is conscious. Remove dentures, if present. DO NOT induce vomiting unless directed to do so by medical personnel. Give 1-2 cupfuls of water to drink if the victim is conscious, alert, and able to swallow without experiencing respiratory distress. Never give anything by mouth to an unconscious or convulsing person. Do not leave victim unattended. Immediately contact a physician or poison center for instructions.
Skin:	Flush with large amounts of water while removing contaminated clothing. Continue rinsing for at least 15 minutes or longer, depending on severity of exposure. Wash contaminated clothing before reuse and discard contaminated shoes. Consult a physician or poison center if irritation or pain persists.
Eyes:	Immediately flush eyes with fresh water for at least 15 minutes while holding the eyelids open. Do not rub eyes. Remove contact lenses if worn. Consult a physician. Immediately contact a physician or poison center for instructions.

5. FIREFIGHTING MEASURES

Flammability:	Not flammable.
Special Hazards from Substance:	This material is an oxidizer, approach any fire from upwind and avoid vapors and toxic decomposition products. While product is not combustible, it is a strong oxidizer and its heat of reaction with reducing agents or combustible materials may cause ignition. Releases oxygen upon decomposition which enhances combustion. During emergency conditions, overexposure to decomposition products may cause a health hazard and symptoms may not be readily apparent.
Extinguishing Media:	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus for fire fighting. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. Water contaminated with this material should be contained from being discharged into any waterway, sewer, or drain to prevent environmental contamination.

6. ACCIDENTAL RELEASE MEASURES

If Material is Released / Spilled:	Use appropriate personal protective equipment. Avoid dust formation. Avoid breathing dust, vapors, mist, or gas. Remove all sources of ignition. Isolate spill area and provide ventilation. Evacuate personnel to safe areas. Pick up and arrange disposal without creating dust. Sweep up and shovel. DO NOT use combustible materials such as paper towels or straw brooms to clean up spills. Do not save contaminated material, keep in suitable, closed containers until disposal via licensed waste disposal contractor.
---	---

SAFETY DATA SHEET

Environmental Precautions: Do not let product enter drains, sewers, or waterways.

7. HANDLING AND STORAGE

Handling Conditions: Wear all appropriate personal protective equipment. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Avoid contact with combustible, organic, or oxidizable materials.

Storage Conditions: Store in a cool, dry, well-ventilated area away from any combustible materials, food, drink, acids, reducing agents, and heat / ignition sources. Avoid storing on wood floors or near any alkaline substances. Hygroscopic, keep container tightly closed to avoid moisture absorption and prevent spillage.

Work / Hygienic Maintenance: Do not get in eyes or on skin or clothing. Do not breath dust. Do not smoke. Wash any contaminated clothing before reuse.

Ventilation: Provide appropriate exhaust ventilation at places where dust is formed.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible Exposure Limits:	Authority	Basis	Limit	Remarks
	NIOSH	REL	2.0 mg/m ³	Aluminum (soluble salts and alkyls, as Al) (up to 10-hour total weighted average)

Threshold Limit Value:	Authority	Basis	Limit	Remarks
	ACGIH	TLV	2.0 mg/m ³	Aluminum (soluble salts and alkyls, as Al) (up to 8-hour total weighted average)

Special Equipment: No Data Available.

Respiratory Protection: Wear an approved filter type dust respirator when handling this product. Where risk assessment shows air-purifying respirators are appropriate use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Protective Gloves: Handle with butyl rubber or neoprene gloves impermeable to chemicals or oil. Gloves must be inspected prior to use. Use proper glove removal technique (without touching the glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye Protection: Safety glasses with side shields and face shield. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Body Protection: Wear appropriate protective clothing. Wear protective boots if the situation requires.

9. PHYSICAL AND CHEMICAL CHARACTERISTICS

Color:	White	Molecular Weight:	375.13 g/mol
Forms:	Granular or crystalline solid	Density:	1.72 g/cm ³
Odor:	Odorless	pH:	2.5 - 3.5 (5% aqueous solution @ 25°C)
Water Solubility:	41.9 g/l @ 20°C	Auto-Ignition Temperature:	No Data Available.
Boiling Point:	> 135°C (> 275°F) (decomposes)	Evaporation Rate:	No Data Available.
Melting Point / Freezing Point:	> 73°C (> 163°F) (decomposes)	Flammability or Explosive Limits:	No Data Available.

SAFETY DATA SHEET

Vapor Pressure:	No Data Available.	Partition Coefficient: n-octanol/ water	No Data Available.
Vapor Density:	No Data Available.	Decomposition Temperature:	> 135°C (> 275°F)
Flash Point:	No Data Available.	Viscosity:	No Data Available.

10. REACTIVITY

Stability:	Stable under recommended storage conditions.
Reacts with:	Reacts violently with flammables, combustibles, many organic compounds, and reducing agents such as powdered metals. Also reacts with strong acids, cyanides, thiocyanides, and heavy metals. Reacts with strong acids to produce toxic nitrogen dioxide. Hygroscopic, absorbs moisture from the air.
Incompatible Conditions:	Heat, flames, sources of ignition, contact with incompatible and combustible materials, moisture.
Hazardous Decomposition Products:	Nitrogen oxides, Aluminum oxides, Aluminum fumes, irritating and toxic fumes and gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity	Eyes:	Causes severe eye irritation with redness, swelling, pain, and tearing.
	Skin:	Causes skin irritation with symptoms including localized redness, itching, swelling, and discomfort.
	Ingestion:	Harmful if swallowed. May cause irritation of the gastrointestinal system. May cause central nervous system effects, including eye disturbances, deafness, speechlessness, and tetanic convulsions. Repeated or large doses via ingestion may cause dizziness, abdominal pain, vomiting, bloody diarrhea, weakness, convulsions, and collapse. May also cause methemoglobinemia resulting in cyanosis. (LD ₅₀ oral - rat: 3,671 mg/kg)
	Inhalation:	May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath, and delayed lung edema. Repeated or large doses via inhalation may cause methemoglobinemia, cyanosis, convulsions, tachycardia, and death.
Chronic Toxicity	Skin Corrosion / Irritation:	Prolonged exposure may cause skin burns.
	Serious Eye Damage / Irritation:	May cause chemical conjunctivitis. May cause permanent corneal opacification.
	Respiratory / Skin Sensitization:	No Data Available.
	Mutagenic Effects:	No Data Available.
	Reproductive / Teratogenic Effects:	Adverse reproductive effects have been observed in animals.
	Specific Target Organ Toxicity: (single exposure)	No Data Available.
	Specific Target Organ Toxicity: (repeated exposure)	Persons with a history of kidney or lung disease may be more susceptible to the effects of this substance. Prolonged exposure may cause anemia and methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, dizziness, drowsiness, shortness of breath, cyanosis (bluish skin due to deficient oxygenated blood), rapid heart rate, coma, and possible death. Small repeated doses of nitrates may cause weakness, depression, headache, and mental impairment.
	Aspiration Hazard:	No Data Available.

Other Adverse Effects: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity: No Data Available.

Persistence and degradability: Inorganic substances are not biodegradable.

Bioaccumulative potential: This substance is not expected to bioaccumulate.

Notes: Do not allow material to run into waterways, sewers, or drains.

13. DISPOSAL CONSIDERATIONS

Disposal: Offer surplus and non-recyclable materials to a licensed disposal company. Dispose of in accordance with local, state, or national regulations.

14. TRANSPORTATION DATA

Hazardous:

DoT: Hazardous for Transportation

IMDG: Hazardous for Transportation

IATA: Hazardous for Transportation

Pictogram:



Hazard Class: 5.1 Oxidizing Substances

Packing Group: III

UN Number: UN1438

US DoT **Proper Name:** Aluminum Nitrate

Marine Pollutant: No Data Available.

Poison Inhalation
Hazard: No.

IMDG **Proper Name:** ALUMINUM NITRATE

EMS-No: F-H, S-Q

IATA**Proper Name:** Aluminum Nitrate

Quantity Limit: 49 CFR 173.27 and 175.75 - Cargo Aircraft: 100kg, Passenger Aircraft: 25kg

15. REGULATORY INFORMATION

Toxic Substance Control Act	Not Listed.
SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (de minimus) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards	Acute Health Hazard
Massachusetts Right to Know Components	No components are subject to the Ma. Right to Know Act.
Pennsylvania Right to Know Components	Aluminum Nitrate (CAS No. 7784-27-2)
New Jersey Right to Know Components	Aluminum Nitrate (CAS No. 7784-27-2)
California Prop. 65 Components	This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

16. OTHER INFORMATION

Copyright 2019 Lorad Chemical Corporation. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document does not constitute a hazard assessment and should not be used in place of the user's own assessment of work place risks as required by other health and safety legislation. The information in this sheet does not represent a guarantee of the properties of the product. Lorad Chemical Corporation and its Affiliates make no warranty with respect to the accuracy of the information or the suitability of this product for any particular application, and shall not be held liable for any damage resulting from handling or from contact with the above product.

Revision Date: 11/25/2019