



## MATERIAL SAFETY DATA SHEET

CONTACT : **LEONID CHEMICALS**  
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Aluminum Nitrate Nonahydrate - 00942

### SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name:  
Aluminum Nitrate Nonahydrate

Catalog Numbers:  
A586 10, A586 3, A586 500, A586-10, A586-250, A586-3, A586-500, A58610, A5863,  
A586500

Synonyms:  
Aluminum Trinitrate; Nitric Acid Aluminum Salt

Company Information:  
LEONID CHEMICALS  
62/A-2 1st Stage, Yeshwanthpur Industrial Suburb  
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### SECTION 2- COMPOSITION, INFORMATION ON INGREDIENTS

CAS #	:	7784-27-2
Chemical Name	:	Aluminum Nitrate Nonahydrate
%	:	100 %
EINECS#	:	Unlisted.
Hazard Symbols	:	0
Risk Phrases	:	8

### SECTION 3- HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Appearance: colorless or white. Danger! Strong oxidizer. Contact with other material may cause a fire. Hygroscopic. May cause reproductive effects based upon animal studies. May cause severe eye, skin and respiratory tract irritation with possible burns. Target Organs: No data found.

#### Potential Health Effects

Eye:  
Causes eye irritation. May cause conjunctivitis. May cause permanent corneal opacification.

Skin:  
May cause severe irritation and possible burns.



#### Ingestion:

Methemoglobinemia is characterized by dizziness, drowsiness, headache, breath shortness, cyanosis with bluish skin, rapid heart rate and chocolate-brown colored blood. Ingestion of nitrate containing compounds can lead to methemoglobinemia. May cause nausea, vomiting, and diarrhea, possibly with blood.

#### Inhalation:

May cause respiratory tract irritation. May cause methemoglobinemia, cyanosis, convulsions, tachycardia, dyspnea, and death. Methemoglobinemia is characterized by dizziness, drowsiness, headache, breath shortness, cyanosis with bluish skin, rapid heart rate and chocolate-brown blood. May cause acute pulmonary edema, asphyxia, chemical pneumonitis, and upper airway obstruction caused by edema.

#### Chronic:

May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis, rapid heart rate, unconsciousness and possible death. Reproductive effects have been reported in animals.

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## SECTION 4 - FIRST AID MEASURES

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#### Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

#### Skin:

Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

#### Ingestion:

Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid.

#### Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. Get medical aid if cough or other symptoms appear. DO NOT use mouth-to-mouth respiration. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

#### Notes to Physician:

For methemoglobinemia, administer oxygen alone or with Methylene blue depending on the methemoglobinemia concentration in the blood.

#### Antidote:

Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.

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## SECTION 5 - FIRE FIGHTING MEASURES

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### General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with combustible materials may cause a fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Use water with caution and in flooding amounts. Containers may explode when heated.

### Extinguishing Media:

Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out. For small fires DO NOT use dry chemicals, carbon dioxide, halon or foams. USE WATER ONLY. For large fires, flood fire area with water from a distance.

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## SECTION 6 - ACCIDENTAL RELEASE MEASURES

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### General Information:

Use proper personal protective equipment as indicated in Section 8.

### Spills/Leaks:

Vacuum or sweep up material and place into a suitable disposal container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Do not use combustible materials such as paper towels to clean up spill.

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## SECTION 7 - HANDLING AND STORAGE

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### General Information:

Use proper personal protective equipment as indicated in Section 8. Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Do not use combustible materials such as paper towels to clean up spill.

### Storage:

Keep away from heat, sparks, and flame. Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from flammable liquids. Store protected from moisture.

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## SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

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### Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Personal Protective Equipment

#### Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

#### Skin:

Wear appropriate gloves to prevent skin exposure.

#### Clothing:

Wear a chemical apron. Wear appropriate clothing to prevent skin exposure.

#### Respirators:

Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

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## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

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Physical State	:	Solid
Appearance	:	Colorless or white
Odor	:	Odorless
PH	:	Acidic in solution.
Vapor Pressure	:	No information available.
Vapor Density	:	No information available.
Evaporation Rate	:	No information available.
Viscosity	:	No information available.
Boiling Point	:	302 deg F
Freezing/Melting Point	:	165 deg F
Autoignition Temperature	:	Not applicable.
Flash Point	:	Not applicable.
NFPA Rating	:	(est.) Health: 2; Flammability: 0; Reactivity: 1
Explosion Limits, Lower	:	No information available.
Explosion Limits, Upper	:	No information available.
Decomposition Temperature	:	302 F
Solubility	:	64% in water at 25C
Specific Gravity/Density	:	>1
Molecular Formula	:	Al(NO <sub>3</sub> ) <sub>3</sub> .9H <sub>2</sub> O
Molecular Weight	:	375.1168

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## SECTION 10 - STABILITY AND REACTIVITY

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### Chemical Stability:

Stable under normal temperatures and pressures.

### Conditions to Avoid:

Incompatible materials, ignition sources, dust generation, combustible materials, reducing agents, exposure to moist air or water.

### Incompatibilities with Other Materials:

Reducing agents, moisture. Hazardous

### Decomposition Products:

Nitrogen oxides, irritating and toxic fumes and gases, aluminum oxide, aluminum fumes.

### Hazardous Polymerization:

Has not been reported.

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## SECTION 11 - TOXICOLOGICAL INFORMATION

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### RTECS#:

CAS# 7784-27-2: Bd1050000

### LD50/LC50:

CAS# 7784-27-2: Oral, mouse: LD50 = 3980 mg/kg; Oral, rat: LD50 = 3671 mg/kg.

### Carcinogenicity:

Aluminum Nitrate Nonahydrate - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

### Epidemiology:

No information available.

### Teratogenicity:

No information available.

### Reproductive Effects:

No information available.

### Neurotoxicity:

No information available.

### Mutagenicity:

No information available.

### Other Studies:

See actual entry in RTECS for complete information.

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## SECTION 12 - ECOLOGICAL INFORMATION

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No information available.

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## SECTION 13 - DISPOSAL CONSIDERATIONS

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Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Part 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

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## SECTION 14 - TRANSPORT INFORMATION

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### US DOT

Shipping Name : ALUMINUM NITRATE  
Hazard Class : 5.1  
UN Number : Un1438  
Packing Group : III

### Canadian TDG

Shipping Name : ALUMINUM NITRATE  
Hazard Class : 5.1  
UN Number : Un1438

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## SECTION 15 - REGULATORY INFORMATION

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### US FEDERAL

#### TSCA

CAS# 7784-27-2 is not on the TSCA Inventory. It is a hydrate and exempt from TSCA Inventory requirements (40CFR720.3(u)(2)).

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### SARA

##### Section 302 (RQ)

None of the chemicals in this material have an RQ.

##### Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

## SARA Codes

CAS # 7784-27-2: acute, flammable.

Section 313 This material contains Aluminum Nitrate Nonahydrate (listed as \*\* undefined \*\*), 100%, (CAS# 7784-27-2) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

## Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

## Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

## OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

## STATE

Aluminum Nitrate Nonahydrate can be found on the following state right to know lists: California, (listed as \*\* no name \*\*), New Jersey, (listed as \*\* no name \*\*), Florida, (listed as \*\* no name \*\*), Pennsylvania, (listed as \*\* no name \*\*), Minnesota, (listed as \*\* no name \*\*), Massachusetts, (listed as \*\* no name \*\*). California No Significant Risk Level: None of the chemicals in this product are listed.

## European/International Regulations

### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

O

#### Risk Phrases:

R 8 Contact with combustible material may cause fire.

#### Safety Phrases:

No information available.

#### WGK (Water Danger/Protection):

:CAS# 7784-27-2: No information available.

#### United Kingdom Occupational Exposure Limits

CAS# 7784-27-2: OES-United Kingdom, TWA (listed as \*\* undefined \*\*): total inhalable dust 10 mg/m<sup>3</sup> TWA; respirable dust 4 mg/m<sup>3</sup> TWA Canada None of the chemicals in this product are listed on the DSL/NDSL list. This product has a WHMIS classification of C, D2A, D2B.

CAS# 7784-27-2 is not listed on Canada's Ingredient Disclosure List.

## Exposure Limits

CAS# 7784-27-2: OEL-AUSTRALIA: TWA 2 mg(AI)/m<sup>3</sup>

OEL-BELGIUM: TWA 2 mg(AI)/m<sup>3</sup>

OEL-DENMARK: TWA 2 mg(AI)/m<sup>3</sup>

OEL-FRANCE: TWA 2 mg(AI)/m<sup>3</sup>

OEL-THE NETHERLANDS: TWA 2 mg(AI)/m<sup>3</sup>

OEL-RUSSIA: TWA 2 mg(AI)/m<sup>3</sup>

OEL-SWEDEN: TWA 2 mg(AI)/m<sup>3</sup>

OEL-SWITZERLAND: TWA 2 mg(AI)/m<sup>3</sup>

OEL-UNITED KINGDOM: TWA 2 mg(AI)/m<sup>3</sup>

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

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## SECTION 16 - ADDITIONAL INFORMATION

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The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

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