

## SAFETY DATA SHEET

Creation Date 05-Oct-2010

Revision Date 17-Jan-2018

Revision Number 3

### 1. Identification

**Product Name** Aluminium nitrate nonahydrate

**Cat No. :** NC0552759

**CAS-No** 7784-27-2

**Synonyms** Nitric acid, aluminum salt, nonahydrate.; Aluminum trinitrate nonahydrate

**Recommended Use** Laboratory chemicals.

**Uses advised against** Not for food, drug, pesticide or biocidal product use

#### Details of the supplier of the safety data sheet

##### Company

Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

##### **Emergency Telephone Number**

CHEMTREC®, Inside the USA: 800-424-9300

CHEMTREC®, Outside the USA: 001-703-527-3887

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                                   |            |
|-----------------------------------|------------|
| Oxidizing solids                  | Category 3 |
| Skin Corrosion/Irritation         | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |

#### Label Elements

##### **Signal Word**

Warning

##### **Hazard Statements**

May intensify fire; oxidizer

Causes skin irritation

Causes serious eye irritation

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep/Store away from clothing/ other combustible materials  
 Take any precaution to avoid mixing with combustibles

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
 If skin irritation occurs: Get medical advice/attention  
 Take off contaminated clothing and wash before reuse

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition/Information on Ingredients

| Component                     | CAS-No     | Weight % |
|-------------------------------|------------|----------|
| Aluminium nitrate nonahydrate | 7784-27-2  | 100      |
| Aluminum nitrate              | 13473-90-0 | -        |

### 4. First-aid measures

|  |   |
|--|---|
| <b>General Advice</b>                      | If symptoms persist, call a physician.  |
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.   |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| <b>Inhalation</b>                          | Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.        |
| <b>Ingestion</b>                           | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.             |
| <b>Most important symptoms and effects</b> | None reasonably foreseeable.  |
| <b>Notes to Physician</b>                  | Treat symptomatically   |

### 5. Fire-fighting measures

**Suitable Extinguishing Media** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable Extinguishing Media** No information available

**Flash Point** No information available  
**Method -** No information available

#### Autoignition Temperature

#### Explosion Limits

**Upper** No data available

**Lower** No data available

**Oxidizing Properties** Oxidizer

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

#### Specific Hazards Arising from the Chemical

May ignite combustibles (wood, paper, oil, clothing, etc.). Oxidizer: Contact with combustible/organic material may cause fire.

#### Hazardous Combustion Products

Nitrogen oxides (NO<sub>x</sub>)

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### NFPA

**Health**  
2

**Flammability**  
0

**Instability**  
1

**Physical hazards**  
OX

### 6. Accidental release measures

#### Personal Precautions

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

#### Environmental Precautions

Should not be released into the environment.

#### Methods for Containment and Clean Up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

### 7. Handling and storage

#### Handling

Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from clothing and other combustible materials.

#### Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials.

### 8. Exposure controls / personal protection

#### Exposure Guidelines

| Component                     | ACGIH TLV | OSHA PEL                           | NIOSH IDLH               | Mexico OEL (TWA)         |
|-------------------------------|-----------|------------------------------------|--------------------------|--------------------------|
| Aluminium nitrate nonahydrate |           | (Vacated) TWA: 2 mg/m <sup>3</sup> | TWA: 2 mg/m <sup>3</sup> | TWA: 2 mg/m <sup>3</sup> |

#### Legend

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

#### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location.

Ensure adequate ventilation, especially in confined areas.

### Personal Protective Equipment

|                                 |   |
|---------------------------------|---|
| <b>Eye/face Protection</b>      | 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.   |
| <b>Skin and body protection</b> | Long sleeved clothing.  |
| <b>Respiratory Protection</b>   | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |
| <b>Hygiene Measures</b>         | Handle in accordance with good industrial hygiene and safety practice.  |

## 9. Physical and chemical properties

|   |                          |
|---|--------------------------|
| <b>Physical State</b>                         | Solid                    |
| <b>Appearance</b>                             | Clear                    |
| <b>Odor</b>                                   | Odorless                 |
| <b>Odor Threshold</b>                         | No information available |
| <b>pH</b>                                     | 2.5-3.5 5% aq.sol        |
| <b>Melting Point/Range</b>                    | 73 °C / 163.4 °F         |
| <b>Boiling Point/Range</b>                    | No information available |
| <b>Flash Point</b>                            | No information available |
| <b>Evaporation Rate</b>                       | Not applicable           |
| <b>Flammability (solid,gas)</b>               | No information available |
| <b>Flammability or explosive limits</b>       |                          |
| <b>Upper</b>                                  | No data available        |
| <b>Lower</b>                                  | No data available        |
| <b>Vapor Pressure</b>                         | No information available |
| <b>Vapor Density</b>                          | Not applicable           |
| <b>Specific Gravity</b>                       | No information available |
| <b>Solubility</b>                             | 64 g/100ml (25°C)        |
| <b>Partition coefficient; n-octanol/water</b> | No data available        |
| <b>Autoignition Temperature</b>               |                          |
| <b>Decomposition Temperature</b>              | 135 °C                   |
| <b>Viscosity</b>                              | Not applicable           |
| <b>Molecular Formula</b>                      | Al N3 O9 . 9 H2 O        |
| <b>Molecular Weight</b>                       | 375.13                   |

## 10. Stability and reactivity

|   |   |
|---|---|
| <b>Reactive Hazard</b>                  | None known, based on information available Yes  |
| <b>Stability</b>                        | Oxidizer: Contact with combustible/organic material may cause fire. Hygroscopic.  |
| <b>Conditions to Avoid</b>              | Incompatible products. Excess heat. Combustible material. Avoid dust formation. Exposure to moist air or water.                               |
| <b>Incompatible Materials</b>           | Strong oxidizing agents, Bases, Combustible material, Reducing agents, Acids, Heavy metals, Cyanides, Powdered metals, Strong reducing agents |
| <b>Hazardous Decomposition Products</b> | Nitrogen oxides (NOx)   |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.  |
| <b>Hazardous Reactions</b>              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

#### Product Information

#### Component Information

| Component                     | LD50 Oral                                    | LD50 Dermal | LC50 Inhalation |
|-------------------------------|--|-------------|-----------------|
| Aluminium nitrate nonahydrate | LD50 = 3671 mg/kg ( Rat )                    | Not listed  | Not listed      |
| Aluminum nitrate              | 2060 mg/kg ( Rat )<br>204 mg/kg (Al) ( Rat ) | Not listed  | Not listed      |

**Toxicologically Synergistic Products** No information available

#### Products

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** Irritating to eyes, respiratory system and skin

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component                     | CAS-No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-------------------------------|------------|------------|------------|------------|------------|------------|
| Aluminium nitrate nonahydrate | 7784-27-2  | Not listed |
| Aluminum nitrate              | 13473-90-0 | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT**

UN-No UN1438  
 Proper Shipping Name ALUMINUM NITRATE  
 Hazard Class 5.1  
 Packing Group III

**TDG**

UN-No UN1438  
 Proper Shipping Name ALUMINUM NITRATE  
 Hazard Class 5.1  
 Packing Group III

**IATA**

UN-No UN1438  
 Proper Shipping Name Aluminium nitrate  
 Hazard Class 5.1  
 Packing Group III

**IMDG/IMO**

UN-No UN1438  
 Proper Shipping Name Aluminum nitrate  
 Hazard Class 5.1  
 Packing Group III

## 15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

**International Inventories**

| Component                     | TSCA | DSL | NDSL | EINECS    | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|-------------------------------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Aluminium nitrate nonahydrate | -    | -   | -    | -         | -      |     | X     | -    | X    | X     | -    |
| Aluminum nitrate              | X    | X   | -    | 236-751-8 | -      |     | X     | X    | X    | X     | X    |

**Legend:**

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations**

TSCA 12(b) Not applicable

**SARA 313**

| Component                     | CAS-No    | Weight % | SARA 313 - Threshold Values % |
|-------------------------------|-----------|----------|-------------------------------|
| Aluminium nitrate nonahydrate | 7784-27-2 | 100      | 1.0                           |

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

**OSHA** Occupational Safety and Health Administration  
Not applicable

**CERCLA** Not applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

| Component                     | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-------------------------------|---------------|------------|--------------|----------|--------------|
| Aluminium nitrate nonahydrate | -             | X          | X            | X        | -            |
| Aluminum nitrate              | -             | X          | -            | X        | -            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

## 16. Other information

**Prepared By** Regulatory Affairs  
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**Creation Date** 05-Oct-2010

**Revision Date** 17-Jan-2018

**Print Date** 17-Jan-2018

**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**