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**1. PRODUCT AND COMPANY IDENTIFICATION****1.1 Product identifiers**

Product name : Aluminium Standard for AAS  
Product Number : 39435  
Brand : Fluka

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052

**1.4 Emergency telephone number**

Emergency Phone # : (314) 776-6555

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**2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Skin irritation (Category 2), H315  
Eye irritation (Category 2A), H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word

Warning

Hazard statement(s)

H315

Causes skin irritation.

H319

Causes serious eye irritation.

Precautionary statement(s)

P264

Wash skin thoroughly after handling.

P280

Wear protective gloves/ eye protection/ face protection.

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321

Specific treatment (see supplemental first aid instructions on this label).

P332 + P313

If skin irritation occurs: Get medical advice/ attention.

P337 + P313

If eye irritation persists: Get medical advice/ attention.

P362

Take off contaminated clothing and wash before reuse.

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none**

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.2 Mixtures

Component	Classification	Concentration
<b>Nitric acid</b>		
CAS-No. 7697-37-2 EC-No. 231-714-2 Index-No. 007-004-00-1	Ox. Liq. 3; Skin Corr. 1A; Eye Dam. 1; H272, H314	1 - 5 %
<b>Aluminium nitrate nonahydrate</b>		
CAS-No. 7784-27-2 EC-No. 236-751-8	Skin Irrit. 2; Eye Irrit. 2A; H315, H319	1 - 5 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

##### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

##### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

no data available

### 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### 5.2 Special hazards arising from the substance or mixture

nitrogen oxides (NOx), Aluminum oxide

#### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### 5.4 Further information

no data available

### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. For personal protection see section 8.

## 6.2 Environmental precautions

Do not let product enter drains.

## 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

## 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Nitric acid	7697-37-2	TWA	2 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Eye & Upper Respiratory Tract irritation Dental erosion		
		STEL	4 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Eye & Upper Respiratory Tract irritation Dental erosion		
		ST	4 ppm 10 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		TWA	2 ppm 5 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		TWA	2 ppm 5 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m <sup>3</sup> is approximate.		
		TWA	2 ppm 5 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	4 ppm 10 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching 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.

### Body Protection

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. 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).

### Control of environmental exposure

Do not let product enter drains.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |   |                         |
|---|-------------------------|
| a) Appearance                                   | Form: liquid            |
| b) Odour  | no data available       |
| c) Odour Threshold                              | no data available       |
| d) pH   | no data available       |
| e) Melting point/freezing point                 | no data available       |
| f) Initial boiling point and boiling range      | no data available       |
| g) Flash point                                  | no data available       |
| h) Evaporation rate                             | no data available       |
| i) Flammability (solid, gas)                    | no data available       |
| j) Upper/lower flammability or explosive limits | no data available       |
| k) Vapour pressure                              | no data available       |
| l) Vapour density                               | no data available       |
| m) Relative density                             | 1.020 g/cm <sup>3</sup> |
| n) Water solubility                             | no data available       |
| o) Partition coefficient: n-octanol/water       | no data available       |
| p) Auto-ignition temperature                    | no data available       |
| q) Decomposition temperature                    | no data available       |
| r) Viscosity                                    | no data available       |
| s) Explosive properties                         | no data available       |
| t) Oxidizing properties                         | no data available       |

### 9.2 Other safety information

no data available

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

- 10.3 Possibility of hazardous reactions** no data available
- 10.4 Conditions to avoid**  
no data available
- 10.5 Incompatible materials**  
Strong oxidizing agents
- 10.6 Hazardous decomposition products**  
Other decomposition products - no data available  
In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**  
no data available

Dermal: no data available  
no data available

**Skin corrosion/irritation**  
no data available

**Serious eye damage/eye irritation** no data available

**Respiratory or skin sensitisation** no data available

**Germ cell mutagenicity**  
no data available

#### **Carcinogenicity**

- IARC: 2A - Group 2A: Probably carcinogenic to humans (Aluminium nitrate nonahydrate)
- 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.

**Reproductive toxicity**  
no data available  
no data available

**Specific target organ toxicity - single exposure** no data available

**Specific target organ toxicity - repeated exposure** no data available

**Aspiration hazard**  
no data available

**Additional Information**  
RTECS: Not available

spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Literature indicates that lectin from mistletoe is a cytotoxin very similar to ricin, abrin, and modeccin. In the absence of inhalation data, we are citing data published from the castor bean lectin which indicates that it is extremely toxic if inhaled as fine particles. Injection of a few micrograms into the bloodstream is fatal to animals. Therefore we consider the compound

to be extremely dangerous. There is also evidence that these products should be considered strong sensitizers which may cause serious allergic reactions.

Liver - Irregularities - Based on Human Evidence  
Liver - Irregularities - Based on Human Evidence (Nitric acid)

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

no data available

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 3264      Class: 8      Packing group: III  
Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid)  
Reportable Quantity (RQ): 38610 lbs  
Marine pollutant: No  
Poison Inhalation Hazard: No

### IMDG

UN number: 3264      Class: 8      Packing group: III      EMS-No: F-A, S-B  
Proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric acid)  
Marine pollutant: No

### IATA

UN number: 3264      Class: 8      Packing group: III  
Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid)

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## 15. REGULATORY INFORMATION

### SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

	CAS-No.	Revision Date
Nitric acid	7697-37-2	2007-07-01

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Nitric acid	7697-37-2	2007-07-01

## SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

### Massachusetts Right To Know Components

	CAS-No.	Revision Date
Nitric acid	7697-37-2	2007-07-01

### Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Water	7732-18-5	
Nitric acid	7697-37-2	2007-07-01

### New Jersey Right To Know Components

	CAS-No.	Revision Date
Water	7732-18-5	
Nitric acid	7697-37-2	2007-07-01
Aluminium nitrate nonahydrate	7784-27-2	1989-08-11

### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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## 16. OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
Ox. Liq.	Oxidizing liquids
Skin Corr.	Skin corrosion
Skin Irrit.	Skin irritation

### HMIS Rating

Health hazard:	3
Chronic Health Hazard:	*
Flammability:	0
Physical Hazard	2

### NFPA Rating

Health hazard:	3
Fire Hazard:	0
Reactivity Hazard:	0

### Further information

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### Preparation Information

Sigma-Aldrich Corporation  
Product Safety – Americas  
Region 1-800-521-8956

Version: 5.1

Revision Date: 06/28/2014

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