

<a href="#">Aluminum Nitrate Nonahydrate</a>	<a href="#">Pricing &gt;</a>
<a href="#">Aluminum Nitrate Solution</a>	<a href="#">Pricing &gt;</a>

Linear Formula	Al(NO <sub>3</sub> ) <sub>3</sub> • 9H <sub>2</sub> O
Pubchem CID	24567
MDL Number	MFCD00149132
EC No.	236-751-8
IUPAC Name	aluminum; trinitrate; nonahydrate
Beilstein/Reaxys No.	N/A
SMILES	[N+](=O)([O-])[O-].[N+](=O)([O-])[O-].[N+](=O)([O-])[O-].O.O.O.O.O.O.O.O.O.[Al+3]
Inchi Identifier	InChI=1S/Al.3NO3.9H2O/c;3*2-1(3)4;;;;;;;;;h;;;;;;;;9*1H2/q+3;3*-1;;;;;;;;;
Inchi Key	SWCIQHXIXUMHKA-UHFFFAOYSA-N

<b>Signal Word</b>	Warning
<b>Hazard Statements</b>	H272-H315-H319
<b>Hazard Codes</b>	Xi
<b>Risk Codes</b>	8-36/38
<b>Safety Statements</b>	17-26-36
<b>RTECS Number</b>	BD1050000
<b>Transport Information</b>	UN 1438 5.1/PG 3
<b>WGK Germany</b>	1

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## SAFETY DATA SHEET

Date Accessed: 04/18/2024

Date Revised: 01/15/2022

### SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #7784-27-2

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:  
Domestic, North America +1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

GHS03 Flame over circle

Ox. Sol. 2

H272 May intensify fire; oxidizer.

GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Hazards not otherwise classified

No data available

GHS label elements

GHS label elements, including precautionary statements

Hazard pictograms



GHS03 GHS07

Signal word

Danger

Hazard statements

H272 May intensify fire; oxidizer.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements

P221

Take any precaution to avoid mixing with combustibles.

P210

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P220

Keep/Store away from clothing/combustible materials.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

C - Oxidizing materials

D2B - Toxic material causing other toxic effects

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)  
Health (acute effects) = 1  
Flammability = 0  
Physical Hazard = 2  
Other hazards  
Results of PBT and vPvB assessment  
PBT:  
N/A  
vPvB:  
N/A

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances  
CAS No. / Substance Name:  
7784-27-2 Aluminum nitrate nonahydrate  
Identification number(s):  
EC number:  
236-751-8

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### **SECTION 4. FIRST AID MEASURES**

Description of first aid measures  
If inhaled:  
Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.  
In case of skin contact:  
Immediately wash with soap and water; rinse thoroughly.  
Seek immediate medical advice.  
In case of eye contact:  
Rinse opened eye for several minutes under running water. Consult a physician.  
If swallowed:  
Seek medical treatment.  
Information for doctor  
Most important symptoms and effects, both acute and delayed  
No data available  
Indication of any immediate medical attention and special treatment needed  
No data available

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### **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media  
Suitable extinguishing agents  
Carbon dioxide, extinguishing powder or water spray.

Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents  
Halocarbon extinguisher

Special hazards arising from the substance or mixture  
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

If this product is involved in a fire, the following can be released:

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

Aluminum oxide

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

Do not allow material to be released to the environment without official permits.

Methods and materials for containment and cleanup:

Pick up mechanically.

Prevention of secondary hazards:

Acts as an oxidizing agent on organic materials such as wood, paper and fats

Keep away from combustible material.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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## **SECTION 7. HANDLING AND STORAGE**

Handling

Precautions for safe handling

Handle under dry protective gas.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Substance/product can reduce the ignition

temperature of flammable substances.  
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.  
Conditions for safe storage, including any incompatibilities  
Requirements to be met by storerooms and receptacles:  
No special requirements.  
Information about storage in one common storage facility:  
Store away from flammable substances.  
Store away from reducing agents.  
Do not store with organic materials.  
Store away from metal powders.  
Store away from water/moisture.  
Further information about storage conditions:  
Store under dry inert gas.  
This product is hygroscopic.  
Keep container tightly sealed.  
Store in cool, dry conditions in well-sealed containers.  
Protect from humidity and water.  
Specific end use(s)  
No data available

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Additional information about design of technical systems:  
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.  
Control parameters  
Components with limit values that require monitoring at the workplace:  
None.  
Additional Occupational Exposure Limit Values for related materials or possible hazards during processing:  
13473-90-0 Aluminum nitrate  
REL (USA)  
Long-term value: 2 mg/m<sup>3</sup>  
as Al  
TLV (USA)  
Long-term value: 1\* mg/m<sup>3</sup>  
as Al;\*as respirable fraction  
EL (Canada) Long-term value: 2 mg/m<sup>3</sup>  
as Al  
Additional information:  
No data  
Exposure controls

Personal protective equipment  
Follow typical protective and hygienic practices for handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing immediately.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.  
Maintain an ergonomically appropriate working environment.  
Breathing equipment:  
Use suitable respirator when high concentrations are present.  
Recommended filter device for short term use:  
Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.  
Protection of hands:  
Impervious gloves  
Inspect gloves prior to use.  
Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.  
Material of gloves  
Nitrile rubber, NBR  
Penetration time of glove material (in minutes)  
480  
Glove thickness  
0.11 mm  
Eye protection:  
Safety glasses  
Body protection:  
Protective work clothing.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties  
Appearance:  
Form: Crystalline  
Color: White  
Odor: Odorless  
Odor threshold: No data available.  
pH: N/A  
Melting point/Melting range: 73.5 °C (164 °F)  
Boiling point/Boiling range: No data available  
Sublimation temperature / start: No data available  
Flammability (solid, gas)  
Contact with combustible material may cause fire.  
Ignition temperature: No data available

Decomposition temperature: 135 °C (275 °F)  
Autoignition: No data available.  
Danger of explosion: No data available.  
Explosion limits:  
Lower: No data available  
Upper: No data available  
Vapor pressure: N/A  
Density: No data available  
Relative density  
No data available.  
Vapor density  
N/A  
Evaporation rate  
N/A  
Solubility in / Miscibility with Water at 25 °C (77 °F):  
640 g/l  
Partition coefficient (n-octanol/water): No data  
available.  
Viscosity:  
Dynamic: N/A  
Kinematic: N/A  
Other information  
No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity  
May intensify fire; oxidizer.  
Chemical stability  
Stable under recommended storage conditions.  
Thermal decomposition / conditions to be avoided:  
Decomposition will not occur if used and stored  
according to specifications.  
Possibility of hazardous reactions  
Reacts with reducing agents  
Reacts with flammable substances  
Conditions to avoid  
No data available  
Incompatible materials:  
Reducing agents  
Water/moisture  
Flammable substances  
Organic materials  
Metal powders  
Hazardous decomposition products:  
Nitrogen oxides  
Aluminum oxide

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

#### Information on toxicological effects

##### Acute toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification:

Oral LD50 3671 mg/kg (rat)

##### Skin irritation or corrosion:

Causes skin irritation.

##### Eye irritation or corrosion:

Causes serious eye irritation.

##### Sensitization:

No sensitizing effects known.

##### Germ cell mutagenicity:

No effects known.

##### Carcinogenicity:

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

##### Reproductive toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

Specific target organ system toxicity - repeated exposure:

No effects known.

Specific target organ system toxicity - single exposure:

No effects known.

##### Aspiration hazard:

No effects known.

##### Subacute to chronic toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

##### Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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## SECTION 12. ECOLOGICAL INFORMATION

#### Toxicity

##### Aquatic toxicity:

No data available

##### Persistence and degradability

No data available

##### Bioaccumulative potential

No data available

##### Mobility in soil

No data available

##### Additional ecological information:

Do not allow material to be released to the environment without official permits.



Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.

Avoid transfer into the environment.

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

Other adverse effects

No data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods

Recommendation

Consult official regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

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## **SECTION 14. TRANSPORT INFORMATION**

UN-Number

DOT, IMDG, IATA

UN1438

UN proper shipping name

DOT

Aluminum nitrate

IMDG, IATA

ALUMINIUM NITRATE

Transport hazard class(es)

DOT

Class

5.1 Oxidising substances.

Label

5.1

Class

5.1 (O2) Oxidizing substances

Label

5.1

IMDG, IATA

Class

5.1 Oxidising substances.

Label

5.1

Packing group

DOT, IMDG, IATA

III

Environmental hazards:  
N/A  
Special precautions for user  
Warning: Oxidizing substances  
EMS Number: F-A,S-Q  
Transport in bulk according to Annex II of  
MARPOL73/78 and the IBC Code  
N/A  
Transport/Additional information:  
DOT  
Marine Pollutant (DOT):  
No  
UN "Model Regulation":  
UN1438, Aluminum nitrate, 5.1, III

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## **SECTION 15. REGULATORY INFORMATION**

Safety, health and environmental  
regulations/legislation specific for the substance or  
mixture  
GHS GHS label elements, including precautionary  
statements  
Hazard pictograms  
GHS03  
GHS07  
Signal word  
Danger  
Hazard statements  
H272 May intensify fire; oxidizer.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
Precautionary statements  
P221  
Take any precaution to avoid mixing with  
combustibles.  
P210  
Keep away from heat/sparks/open flames/hot  
surfaces. No smoking.  
P220  
Keep/Store away from clothing/combustible materials.  
P280  
Wear protective gloves/protective clothing/eye  
protection/face protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with  
water for several minutes. Remove contact lenses, if  
present and easy to do. Continue rinsing.  
P501  
Dispose of contents/container in accordance with  
local/regional/  
national/international regulations.  
National regulations  
All components of this product are listed in the U.S.

Environmental Protection Agency Toxic Substances  
Control Act Chemical substance Inventory.  
All components of this product are listed on the  
Canadian Domestic Substances List (DSL).  
SARA Section 313 (specific toxic chemical listings)  
Substance is not listed.  
California Proposition 65  
Prop 65 - Chemicals known to cause cancer  
Substance is not listed.  
Prop 65 - Developmental toxicity  
Substance is not listed.  
Prop 65 - Developmental toxicity, female  
Substance is not listed.  
Prop 65 - Developmental toxicity, male  
Substance is not listed.  
Information about limitation of use:  
For use only by technically qualified individuals.  
Other regulations, limitations and prohibitive  
regulations  
Substance of Very High Concern (SVHC) according to  
the REACH Regulations (EC) No. 1907/2006.  
Substance is not listed.  
The conditions of restrictions according to Article 67  
and Annex XVII of the Regulation (EC) No 1907/2006  
(REACH) for the manufacturing, placing on the market  
and use must be observed.  
Substance is not listed.  
Annex XIV of the REACH Regulations (requiring  
Authorisation for use)  
Substance is not listed.  
Chemical safety assessment:  
A Chemical Safety Assessment has not been carried  
out.

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## **16. OTHER INFORMATION**

Safety Data Sheet according to Regulation (EC) No.  
1907/2006 (REACH). 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 is based on the present  
state of our knowledge and is applicable to the  
product with regard to appropriate safety precautions.  
It does not represent any guarantee of the properties  
of the product. American Elements shall not be held  
liable for any damage resulting from handling or from  
contact with the above product. See reverse side of  
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