

MATERIAL SAFETY DATA SHEET

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Version 1.1

Section 1 - Product and Company Information

Product Name ALUMINUM NITRATE NONAHYDRATE,
98+%, A.C.S. REAGENT
Product Number 237973
Brand ALDRICH

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS MO 63103 US
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Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313 No
ALUMINUM NITRATE NONAHYDRATE	7784-27-2	

Formula $\text{Al}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$
Synonyms Aluminum nitrate nonahydrate * Aluminum
trinitrate nonahydrate * Nitric acid, aluminum
salt, nonahydrate (8CI,9CI)
RTECS Number: BD1050000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Oxidizing. Irritant.

Contact with combustible material may cause fire. Risk of serious
damage to eyes.

Severe eye irritant.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is
conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult,
call a physician.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for
at least 15 minutes. Remove contaminated clothing and shoes.
Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of

water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Contact with other material may cause fire.
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Avoid breathing dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame. Store in a cool dry place.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT

Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

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

TOXICITY DATA

Oral

Rat

3671 mg/kg

LD50

Remarks: Behavioral:Somnolence (general depressed activity).
Gastrointestinal:Changes in structure or function of salivary glands.

Intraperitoneal

Rat

901 MG/KG

LD50

Remarks: Behavioral:Somnolence (general depressed activity).
Skin and Appendages: Other: Hair. Nutritional and Gross
Metabolic:Weight loss or decreased weight gain.

Oral

Mouse

3980 mg/kg

LD50

Remarks: Behavioral:Somnolence (general depressed activity).
Skin and Appendages: Other: Hair. Nutritional and Gross
Metabolic:Weight loss or decreased weight gain.

Intraperitoneal

Mouse

1587 MG/KG

LD50

Remarks: Behavioral:Somnolence (general depressed activity).
Skin and Appendages: Other: Hair. Nutritional and Gross
Metabolic:Weight loss or decreased weight gain.

CHRONIC EXPOSURE - TERATOGEN

Species: Rat

Dose: 1620 MG/KG

Route of Application: Oral

Exposure Time: (6-14D PREG)

Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Embryo or Fetus: Fetal death.
Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

Species: Rat

Dose: 1620 MG/KG

Route of Application: Oral

Exposure Time: (6-14D PREG)

Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rat
Dose: 6480 MG/KG
Route of Application: Oral
Exposure Time: (6-14D PREG)
Result: Specific Developmental Abnormalities: Cardiovascular
(circulatory) system.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 7740 MG/KG
Route of Application: Oral
Exposure Time: (1-22D PREG/21D POST)
Result: Effects on Newborn: Physical.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

For small quantities: cautiously add to a large stirred excess of water. Adjust the pH to neutral, separate any insoluble solids or liquids and package them for hazardous-waste disposal. Flush the aqueous solution down the drain with plenty of water. The hydrolysis and neutralization reactions may generate heat and fumes which can be controlled by the rate of addition. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Aluminum nitrate
UN#: 1438
Class: 5.1
Packing Group: Packing Group III
Hazard Label: Oxidizer
PIH: Not PIH

IATA

Proper Shipping Name: Aluminium nitrate
IATA UN Number: 1438
Hazard Class: 5.1
Packing Group: III

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: O Xi
Indication of Danger: Oxidizing. Irritant.
R: 8 36/38
Risk Statements: Contact with combustible material may cause fire. Irritating to eyes and skin.
S: 17 26 36
Safety Statements: Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Oxidizing. Irritant.
Risk Statements: Contact with combustible material may cause

fire. Risk of serious damage to eyes.

Safety Statements: Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection.

US Statements: Severe eye irritant.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

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