



SIGMA-ALDRICH

Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name Iron(III) nitrate nonahydrate, 98+%, A.C.S. reagent
Product Number 216828
Brand Sigma-Aldrich

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
FERRIC NITRATE NONAHYDRATE	7782-61-8	No	233-899-5	

Formula $\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$
Synonyms Ferric nitrate, nonahydrate, Nitric acid, iron (3+) salt, nonahydrate

Section 3 - Hazards Identification

Emergency Overview
Oxidizing, Irritant.
Contact with combustible material may cause fire. Irritating to eyes, respiratory system and skin.

HMIS Rating
Health: 2 Flammability: 0 Reactivity: 3 Special Hazard(s): Oxidizer

NFPA Rating
Health: 2 Flammability: 0 Reactivity: 3 Special Hazard(s): Oxidizer

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

Autoignition Temp: 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)

Emits toxic fumes under fire conditions. Contact with other material may cause fire. May accelerate combustion.

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

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe vapor. 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. Store under nitrogen.

Special Requirements

Hygroscopic. Store under inert gas.

Section 8 - Exposure Controls / PPE

Engineering Controls

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

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

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General Hygiene Measures

Wash thoroughly after handling. Remove and wash contaminated clothing promptly.

Exposure Limits, RTECS

Country	Source	Type	Value
USA	MSHA Standard-air	TWA	1 MG(FE)/M3

Section 9 - Physical/Chemical Properties

Appearance
Physical State
Solid

Molecular Weight: 404.00 AMU

pH N/A
BP/BP Range N/A
MP/MP Range 47.2 °C
Freezing Point N/A
Vapor Pressure N/A
Vapor Density N/A
Saturated Vapor Conc. N/A
SG/Density 1.68 g/cm3
Bulk Density N/A
Odor Threshold N/A
Volatile% N/A
VOC Content N/A
Water Content N/A
Solvent Content N/A
Evaporation Rate N/A
Viscosity N/A
Partition Coefficient N/A
Decomposition Temp. 125 °C
Flash Point °F N/A
Flash Point °C N/A

Explosion Limits N/A

Flammability N/A

Autoignition Temp N/A

Solubility
Solubility in Water: Soluble.
Other Solvents: ALCOHOL, ACETONE.

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable.
Conditions of Instability
May discolor on exposure to light.
Conditions to Avoid
Moisture.
Materials to Avoid
Organic materials, Finely powdered metals.

Hazardous Decomposition Products
Hazardous Decomposition Products
Iron oxides, Nitrogen oxides.

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Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information**Route of Exposure****Skin Contact**

Causes skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

Causes eye irritation.

Inhalation

May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion

May be harmful if swallowed.

Signs and Symptoms of Exposure

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. Exposure can cause: Nausea, dizziness, and headache. Weakness. Incoordination. Confusion. Cyanosis. Coma. and possibly death.

RTECS Number: NO7175000

Toxicity Data

Oral - Rat: 3250 mg/kg (LD50)

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations**Appropriate Method of Disposal of Substance or Preparation**

Contact a licensed professional waste disposal service to dispose of this material.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information**DOT**

Proper Shipping Name: Ferric nitrate

UN#: 1466

Class: 5.1

Packing Group: Packing Group III

Hazard Label: Oxidizer

PIH: Not PIH

IATA

Proper Shipping Name: Ferric nitrate

IATA UN Number: 1466

Hazard Class: 5.1

Packing Group: III

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Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: O Xi

Indication of Danger

Oxidizing, Irritant.

Risk Statements

R: 8 36/37/38

Contact with combustible material may cause fire. Irritating to eyes, respiratory system and skin.

Safety Statements

S: 17 26 36

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. Irritating to eyes, respiratory system and skin.

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.

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

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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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