

Material Safety Data Sheet

Iron(III) nitrate nonahydrate

ACC# 09780

Section 1 - Chemical Product and Company Identification

MSDS Name: Iron(III) nitrate nonahydrate

Catalog Numbers: AC202490000, AC202490010, AC202492500, AC423710000, AC423710030, AC423710050, AC423715000, S74199, S74200, S93239, S93240, I110-100, I110-3, I110-500, I110500LC, NC9483480, NC9483494

Synonyms: Ferric nitrate nonahydrate; Nitric acid, iron(3+) salt, nonahydrate.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7782-61-8	Iron(III) nitrate nonahydrate	>98	unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white to gray or light purple solid.

Danger! Strong oxidizer. Contact with other material may cause a fire. Causes eye, skin, and respiratory tract irritation. May cause methemoglobinemia. Hygroscopic (absorbs moisture from the air).

Target Organs: Blood, kidneys, heart, central nervous system, liver.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation.

Ingestion: May cause central nervous system depression, kidney damage, and liver damage. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause cardiac disturbances.

Inhalation: Causes respiratory tract irritation. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death.

Chronic: May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Antidote: The use of Deferoxamine as a chelating agent should be determined only by qualified medical personnel.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. Use water spray to keep fire-exposed containers cool.

Extinguishing Media: Use water only! Do NOT use carbon dioxide or dry chemical.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0; Special Hazard: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep from contact with clothing and other combustible materials. Avoid breathing dust. Inform laundry personnel of contaminant's hazards.

Storage: Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Iron(III) nitrate nonahydrate	1 mg/m ³ TWA (as Fe) (listed under Iron salts (soluble)).	1 mg/m ³ TWA (as Fe) (listed under Iron salts (soluble)).	none listed
Ferric nitrate anhydrous	1 mg/m ³ TWA (as Fe) (listed under Iron salts (soluble)).	1 mg/m ³ TWA (as Fe) (listed under Iron salts (soluble)).	none listed

OSHA Vacated PELs: Iron(III) nitrate nonahydrate: No OSHA Vacated PELs are listed for this chemical. Ferric nitrate anhydrous: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: 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.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: 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.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white to gray or light purple

Odor: none reported

pH: Not available.

Vapor Pressure: Negligible.

Vapor Density: Not available.

Evaporation Rate: Negligible.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 47 deg C

Decomposition Temperature: < 100 deg C

Solubility: Freely Soluble.

Specific Gravity/Density: 1.680

Molecular Formula: FeN₃O₉.9H₂O

Molecular Weight: 404.00

Section 10 - Stability and Reactivity

Chemical Stability: Stable. However, may decompose if heated. Deliquescent (tending to absorb atmospheric water vapor and become liquid).

Conditions to Avoid: Moisture, excess heat, temperatures above 50°C (122°F).

Incompatibilities with Other Materials: Strong reducing agents, organic matter, combustible materials.

Hazardous Decomposition Products: Nitrogen oxides.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 7782-61-8: NO7175000

CAS# 10421-48-4: QU8915000

LD50/LC50:

CAS# 7782-61-8:

Oral, rat: LD50 = 3250 mg/kg;

CAS# 10421-48-4:

Carcinogenicity:

CAS# 7782-61-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 10421-48-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	FERRIC NITRATE	FERRIC NITRATE
Hazard Class:	5.1	5.1
UN Number:	UN1466	UN1466
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7782-61-8 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

CAS# 10421-48-4 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 10421-48-4: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7782-61-8: immediate, fire, reactive.

Section 313

This material contains Iron(III) nitrate nonahydrate (listed as Water Dissociable Nitrate Compounds), >98%, (CAS# 7782-61-8) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Ferric nitrate anhydrous (listed as Water Dissociable Nitrate Compounds), -, (CAS# 10421-48-4) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 10421-48-4 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7782-61-8 can be found on the following state right to know lists: California, (listed as Iron salts (soluble)), Pennsylvania, (listed as Iron salts (soluble)), Minnesota, (listed as Iron salts (soluble)).

CAS# 10421-48-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, (listed as Iron salts (soluble)), Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives

Hazard Symbols:

XI O

Risk Phrases:

R 36/37/38 Irritating to eyes, respiratory system and skin.
R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 17 Keep away from combustible material.
S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 7782-61-8: 1
CAS# 10421-48-4: 1

Canada - DSL/NDSL

CAS# 10421-48-4 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of C, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7782-61-8 (listed as Iron salts (soluble)) is listed on the Canadian Ingredient Disclosure List.
CAS# 10421-48-4 (listed as Iron salts (soluble)) is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #3 Date: 4/16/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.