

# MATERIAL SAFETY DATA SHEET

Product: **Ferric Nitrate**

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### Material Identity

Product Name: Ferric Nitrate, Nonahydrate, Crystal, Technical

Product Code: CH-7782618\_A

Chemical Formula:  $\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$

General or Generic ID: Nitric acid, iron (3+) salt, nonahydrate; Iron trinitrate nonahydrate

### Company

ArtChemicals.com

2250 Davis Street

San Leandro, CA 94577-2204

510-639-4670

### Emergency Telephone Number:

1-800-451-8346

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## 2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>CAS No.</u>	<u>Chemical Identity</u>	<u>Common Name</u>	<u>%</u>
7782-61-8	N/A	Ferric nitrate nonahydrate	100
10421-48-4		Ferric nitrate anhydrous	

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## 3. HAZARDS IDENTIFICATION

### Potential Health Effects

#### Eye:

Hazardous in case of eye contact (irritant/corrosive). Symptoms include stinging, tearing, redness and impairment of vision. The degree of injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment.

#### Skin:

Hazardous in case of skin contact (irritant/corrosive/permeator). The degree of injury will depend on the amount of material that gets on the skin and the speed and thoroughness of the first aid treatment.

#### Ingestion:

Hazardous in case of ingestion. Severe over-exposure can produce lung damage, choking, unconsciousness or death

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## **Inhalation:**

Hazardous in case of inhalation. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death.

## **Symptoms of Exposure:**

Not available.

Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation.

## **Development Information:**

ORAL (LD50): Acute: 3250 mg/kg [Rat].

The substance may be toxic to blood, liver.

Repeated or prolonged exposure to the substance can produce target organs damage.

## **Cancer Information:**

Not available.

## **Primary Route(s) of Entry:**

Inhalation, skin absorption, skin contact, and eye contact.

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## **4. FIRST AID MEASURES**

### **Inhalation:**

If affected, promptly remove individual to fresh air. If not breathing, give artificial respiration. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Get medical attention immediately.

### **Ingestion:**

Do NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. Call physician immediately.

### **Eyes:**

Remove contact lenses if worn. In case of contact, immediately flush with water for at least 15 minutes. Do not use eye ointment. Seek medical attention immediately.

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**Skin:**

Immediately remove contaminated clothing and thoroughly flush skin with plenty of water (15 minutes). Wash thoroughly with disinfectant soap and water. Cold water may be use. Launder clothing before reuse. Get medical attention immediately.

**Note to Physicians:**

Not available.

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## 5. FIRE FIGHTING MEASURES

**Flash Point:** Non-flammable. Not applicable.

**Explosive Limit:** Not applicable.

**Auto-ignition Temperature:** Not applicable.

**Hazardous Products of Combustion:** Not applicable.

**Extinguishing Media:** Not applicable.

**SPECIAL FIRE-FIGHTING PROCEDURES:** Not available. May ignite combustibles (wood, paper, clothing, etc.).

**NFPA CODES:** Health = 2                      Flammability = 0                      Reactivity = 0

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## 6. PRECAUTIONS FOR SAFE HANDLING AND USE

**Steps To Be Taken In Case Material Is Released Or Spilled:**

**Small Spill:**

Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary:

**Large Spill:**

Oxidizing material.

Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

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## 7. PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalies, reducing agents and combustibles. See NFPA 43A, Code for the Storage of Liquid and Solid Oxidizers. Keep away from heat. Keep away from sources of ignition. Keep away from combustible material.. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as reducing agents.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Respiratory Protection:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Be sure to use an approved/certified respirator or equivalent.

### Skin Protection:

Wear resistant gloves. To prevent repeated or prolonged skin contact, wear impervious clothing and boots or lab coat.

### Eye Protection:

Chemical splash goggles in compliance with OSHA regulations are advised. Face shield. Ensure that eyewash stations and safety showers are proximal to the work-station location.

### Other Protective Clothing or Equipment:

Provide sufficient mechanical ventilation to maintain exposure below level of overexposure. Boots. Full suit. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling product.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance and Odor:** Grey/Purple crystalline solid. (Odor not available.)

**Molecular Weight:** 404 g/mole

**pH:** Not available.

**Boiling Point:** Decomposes.

**Melting Point:** 47.2°C (117°F)

**Specific Gravity:** Not available.

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**Vapor Pressure:** Not applicable.

**Evaporation Rate:** Not available.

**Solubility in Water:** Easily soluble in cold water, hot water.

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## 10. STABILITY AND REACTIVITY

**Incompatibility:** Moisture, air, combustible materials, reducing agents, organic materials.

**Stability:** Stable.

**Hazardous Decomposition:** N/A

**Hazardous Polymerization:** Will not occur.

**Special Remarks on Reactivity:** Reacts violently with reducing agents.

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## 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity (LD50): 3250 mg/kg [Rat].

### Acute Potential Health Effects:

Skin: Causes skin irritation.

Eyes: Causes eye irritation.

Inhalation: Causes respiratory tract (nose, throat) irritation with coughing and wheezing. May cause methemoglobinemia (an increase of formation of methemoglobin in the blood resulting of deficient oxygenation of blood/decreased available hemoglobin), cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May affect behavior/central nervous system (convulsions, etc.), cardiovascular system (tachycardia, bradycardia, vasodilatation, and hypotension), and respiration (labored breathing).

Ingestion: Can cause gastroenteritis, abdominal pain, nausea, vomiting, and diarrhea. Can also cause methemoglobinemia, cyanosis, pallor, labored breathing/shortness of breath (dyspnea). It may also affect behavior/central nervous system (central nervous system depression, convulsions/seizures, headache, weakness, dizziness, loss of coordination and judgment, fatigue, unconsciousness).

### Chronic Potential Health Effects:

Ingestion: May cause methemoglobinemia which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, loss of coordination and judgment, shortness of breath, cyanosis, rapid heart rate, unconsciousness and possible death. May also affect the liver/cause liver damage due to iron build up in the body. Symptoms of iron build-up in the

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body may include nausea, vomiting, stomach pain, constipation, and black bowel movements.

Eyes: Prolonged contact may cause a brownish discoloration of the eyes.

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## 12. ECOLOGICAL INFORMATION

Not available.

Possibly hazardous short-term degradation products are not likely. However, long-term degradation products may arise.

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## 13. DISPOSAL CONSIDERATION

### **Waste Disposal Method:**

Dispose of in accordance with all applicable local, state and federal regulations.

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## 14. DOT SHIPPING NAME & IDENTIFICATION:

Ferric Nitrate

Class 5.1. (Oxidizing material).

UNNA: 1466, PG: III

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## 15. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that information is current, applicable, and suitable to their circumstances.