

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations


Printing date: December 11, 2018

Revision: December 11, 2018

## 1 Identification

- **Product identifier**
- **Trade name:** Ferric Nitrate, Crystal
- **Product code:** FE4100
- **CAS Number:**  
7782-61-8
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
Phone: (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Ox. Sol. 3     H272 May intensify fire; oxidizer.  
Met. Corr.1     H290 May be corrosive to metals.  
Skin Corr. 1B   H314 Causes severe skin burns and eye damage.  
Eye Dam. 1     H318 Causes serious eye damage.
- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**  

  
GHS03 GHS05
- **Signal word:** Danger
- **Hazard statements:**  
H272 May intensify fire; oxidizer.  
H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.
- **Precautionary statements:**  
P210                Keep away from heat.  
P220                Keep/Store away from clothing/combustible materials.  
P221                Take any precaution to avoid mixing with combustibles.  
P234                Keep only in original container.

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- P260 Do not breathe dust.
- P264 Wash thoroughly after handling.
- P280 Wear protective gloves/protective clothing/eye protection.
- P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a poison center/doctor.
- P363 Wash contaminated clothing before reuse.
- P370+P378 In case of fire: Use for extinction: Water.
- P390 Absorb spillage to prevent material damage.
- P405 Store locked up.
- P406 Store in corrosive resistant container with a resistant inner liner.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
7782-61-8 iron trinitrate

## 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:**  
Supply fresh air.  
Provide oxygen treatment if affected person has difficulty breathing.  
If experiencing respiratory symptoms: Call a poison center/doctor.
- **After skin contact:**  
Brush off loose particles from skin.  
Immediately rinse with water.  
If skin irritation continues, consult a doctor.  
Seek immediate help for blistering or open wounds.
- **After eye contact:**  
Protect unharmed eye.  
Remove contact lenses if worn.  
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed:**  
Strong caustic effect on skin and mucous membranes.  
Danger of severe eye injury.

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Gastric or intestinal disorders when ingested.

Nausea in case of ingestion.

Cramp

Breathing difficulty

Methaemoglobinaemia

**• Danger:**

Danger of gastric perforation.

Causes serious eye damage.

**• Indication of any immediate medical attention and special treatment needed:**

Medical supervision for at least 48 hours.

If medical advice is needed, have product container or label at hand.

### 5 Fire-fighting measures

**• Extinguishing media****• Suitable extinguishing agents:** Use fire fighting measures that suit the environment.**• For safety reasons unsuitable extinguishing agents:** No relevant information available.**• Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

May intensify fire; oxidizer.

**• Advice for firefighters****• Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

**• Additional information:** Cool endangered receptacles with water spray.

### 6 Accidental release measures

**• Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Wear protective equipment. Keep unprotected persons away.

Isolate area and prevent access.

Take any precaution to avoid mixing with combustibles.

**• Environmental precautions**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Inform respective authorities in case of seepage into water course or sewage system.

**• Methods and material for containment and cleaning up**

Pick up mechanically.

Send for recovery or disposal in suitable receptacles.

**• 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.

### 7 Handling and storage

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- **Handling**
- **Precautions for safe handling:**
  - Prevent formation of aerosols.
  - Avoid splashes or spray in enclosed areas.
  - Use only in well ventilated areas.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
  - Store only in the original receptacle.
  - Unsuitable material for receptacle: aluminium.
- **Information about storage in one common storage facility:**
  - Store away from foodstuffs.
  - Store away from flammable substances.
  - Store away from metals.
  - Do not store together with acids.
- **Further information about storage conditions:** Keep containers tightly sealed.
- **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
  - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **General protective and hygienic measures:**
  - The usual precautionary measures for handling chemicals should be followed.
  - Keep away from foodstuffs, beverages and feed.
  - Wash hands before breaks and at the end of work.
  - Avoid contact with the eyes and skin.
- **Engineering controls:** Provide adequate ventilation.
- **Breathing equipment:**
  - Not required under normal conditions of use.
  - Use suitable respiratory protective device in case of insufficient ventilation.
- **Protection of hands:**



Protective gloves

- **Material of gloves**
  - Butyl rubber, BR
  - Fluorocarbon rubber (Viton)
  - Laminated film gloves.
  - Neoprene gloves
  - Nitrile rubber, NBR
  - Natural rubber, NR
  - Sensibilization by the components in the glove materials is possible.
- **Eye protection:**

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Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment**  
No relevant information available.

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · Appearance:

**Form:** Solid  
**Color:** Not determined.

· **Odor:** Characteristic  
· **Odor threshold:** Not determined.

· **pH-value:** Not determined.  
· **Melting point/Melting range:** Not determined.  
· **Boiling point/Boiling range:** Not determined.

· **Flash point:** The product is not flammable.

· **Flammability (solid, gaseous):** Not applicable.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

#### · Explosion limits

**Lower:** Not determined.  
**Upper:** Not determined.

· **Oxidizing properties:** Not determined.

· **Vapor pressure:** Not determined.

#### · Density:

**Relative density:** Not determined.  
**Vapor density:** Not determined.  
**Evaporation rate:** Not determined.

#### · Solubility in / Miscibility with

**Water:** Dissolves in water.

· **Partition coefficient (n-octanol/water):** Not determined.

#### · Viscosity

**Dynamic:** Not determined.  
**Kinematic:** Not determined.

· **Other information** No relevant information available.

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## 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Toxic fumes may be released if heated above the decomposition point.  
Reacts with strong alkali.  
Corrosive action on metals.  
Contact with acids releases toxic gases.  
Acts as an oxidizing agent on organic materials such as wood, paper and fats.
- **Conditions to avoid** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- **Incompatible materials**  
Metals.  
Alkalis  
Strong acids  
Halogenated compounds.  
Organic materials
- **Hazardous decomposition products**  
Under fire conditions only:  
Nitrogen oxides  
Toxic metal oxide smoke

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:** Strong caustic effect on skin and mucous membranes.
- **On the eye:** Causes serious eye damage.
- **Sensitization:** Based on available data, the classification criteria are not met.

### • IARC (International Agency for Research on Cancer):

Substance is not listed.

### • NTP (National Toxicology Program):

Substance is not listed.

### • OSHA-Ca (Occupational Safety & Health Administration):

Substance is not listed.

### • Probable route(s) of exposure:

Ingestion.  
Inhalation.  
Eye contact.  
Skin contact.

- **Acute effects (acute toxicity, irritation and corrosivity):** Causes severe skin burns and eye damage.
- **Repeated dose toxicity:** No relevant information available.
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

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- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |                                       |                                  |
|---------------------------------------|----------------------------------|
| · <b>UN-Number</b>                    |                                  |
| · <b>DOT, ADR/RID/ADN, IMDG, IATA</b> | UN1466                           |
| · <b>UN proper shipping name</b>      |                                  |
| · <b>DOT</b>                          | Ferric nitrate                   |
| · <b>ADR/RID/ADN, IATA</b>            | FERRIC NITRATE                   |
| · <b>IMDG</b>                         | FERRIC NITRATE, MARINE POLLUTANT |
| · <b>Transport hazard class(es)</b>   |                                  |

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· **DOT**



· **Class** 5.1  
· **Label** 5.1

· **ADR/RID/ADN**



· **Class** 5.1 (O2)  
· **Label** 5.1

· **IMDG**



· **Class** 5.1  
· **Label** 5.1

· **IATA**



· **Class** 5.1  
· **Label** 5.1

· **Packing group**

· DOT, ADR/RID/ADN, IMDG, IATA III

· **Environmental hazards**

· **Marine pollutant:** Yes (DOT)  
Symbol (fish and tree)

· **Special precautions for user**

· **Danger code (Kemler):** Warning: Oxidizing substances  
50  
· **EMS Number:** F-A,S-Q

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations** On passenger aircraft/rail: 25 kg  
On cargo aircraft only: 100 kg

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## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

• **Section 302 (extremely hazardous substances):**

Substance is not listed.

• **Section 355 (extremely hazardous substances):**

Substance is not listed.

• **Section 313 (Specific toxic chemical listings):**

Substance is listed.

• **TSCA (Toxic Substances Control Act)**

Substance is not listed.

• **Proposition 65 (California)**

• **Chemicals known to cause cancer:**

Substance is not listed.

• **Chemicals known to cause developmental toxicity for females:**

Substance is not listed.

• **Chemicals known to cause developmental toxicity for males:**

Substance is not listed.

• **Chemicals known to cause developmental toxicity:**

Substance is not listed.

• **EPA (Environmental Protection Agency):**

Substance is not listed.

• **IARC (International Agency for Research on Cancer):**

Substance is not listed.

• **Canadian Domestic Substances List (DSL) (Substances not listed.):**

All ingredients listed on DSL or NDSL.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulable, Toxic

vPvB: very Persistent and very Bioaccumulative

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OSHA: Occupational Safety & Health Administration  
Ox. Sol. 3: Oxidizing solids – Category 3  
Met. Corr. 1: Corrosive to metals – Category 1  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

• **Sources**

Website, European Chemicals Agency (echa.europa.eu)  
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)  
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)  
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6  
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.  
Safety Data Sheets, Individual Manufacturers

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