

# Safety Data Sheet


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

Revision: August 22, 2020

## 1 Identification

- **Product identifier**
- **Trade name:** Ferric Chloride, Hexahydrate, ACS Grade
- **Product code:** FE3000
- **CAS Number:**  
10025-77-1
- **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 USA  
Tel +1 (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **Distributor:**  
AquaPhoenix Scientific  
860 Gitts Run Road,  
Hanover, PA 17331  
(717) 632-1291
- **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**  
Met. Corr. 1 H290 May be corrosive to metals.  
Acute Tox. 4 H302 Harmful if swallowed.  
Skin Irrit. 2 H315 Causes skin irritation.  
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:**  
  
GHS05 GHS07
- **Signal word:** Danger
- **Hazard statements:**  
H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.

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H318 Causes serious eye damage.

· **Precautionary statements:**

- P234 Keep only in original container.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/protective clothing/eye protection.
- P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
- P330 Rinse mouth.
- P302+P352 If on skin: Wash with plenty of water.
- 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.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P390 Absorb spillage to prevent material damage.
- 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**

10025-77-1 Ferric chloride hexahydrate

## 4 First-aid measures

· **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Brush off loose particles from skin.  
Immediately wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.
- **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:**  
Irritant to skin and mucous membranes.  
Strong irritant with the danger of severe eye injury.  
Gastric or intestinal disorders when ingested.  
Nausea in case of ingestion.
- **Danger:**

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Causes serious eye damage.

Harmful if swallowed.

· **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.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

## 6 Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

· **Environmental precautions**

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

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

Pick up mechanically.

Sweep up and place into an appropriate container.

· **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

· **Handling**

· **Precautions for safe handling:** 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.

Avoid storage near extreme heat.

Unsuitable material for receptacle: aluminium.

Unsuitable material for receptacle: steel.

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· **Information about storage in one common storage facility:**

- Store away from foodstuffs.
- Store away from metals.
- Do not store together with acids.

· **Further information about storage conditions:**

- Keep containers tightly sealed.
- Store in dry conditions.
- Store in cool, dry conditions in well sealed receptacles.

· **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:**

**10025-77-1 Ferric chloride hexahydrate**

REL (USA)	Long-term value: 1 mg/m <sup>3</sup> as Fe
TLV (USA)	Long-term value: 1 mg/m <sup>3</sup> as Fe
EL (Canada)	Short-term value: 2 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup> as Fe
LMPE (Mexico)	Long-term value: 1 mg/m <sup>3</sup> como Fe

· **Exposure controls**

· **General protective and hygienic measures:**

- The usual precautionary measures for handling chemicals should be followed.
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- 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 when high concentrations are present.

· **Protection of hands:**



Protective gloves

· **Material of gloves**

- Butyl rubber, BR
- Fluorocarbon rubber (Viton)
- Natural rubber, NR
- Neoprene gloves
- Nitrile rubber, NBR
- Sensibilization by the components in the glove materials is possible.

· **Eye protection:**

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Contact lenses should not be worn.

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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:

· <b>Form:</b>	Solid
· <b>Color:</b>	Yellow
· <b>Odor:</b>	Odorless
· <b>Odor threshold:</b>	Not determined.

· <b>pH-value:</b>	Not applicable.
· <b>Melting point/Melting range:</b>	306 °C (582.8 °F)
· <b>Boiling point/Boiling range:</b>	Not determined.

· <b>Flash point:</b>	The product is not flammable.
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· <b>Flammability (solid, gaseous):</b>	Product is not flammable.
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· <b>Auto-ignition temperature:</b>	Not determined.
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· <b>Decomposition temperature:</b>	Not determined.
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· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
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#### · Explosion limits

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

· <b>Oxidizing properties:</b>	Non-oxidizing.
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· <b>Vapor pressure at 20 °C (68 °F):</b>	1 hPa (0.8 mm Hg)
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· <b>Density at 20 °C (68 °F):</b>	2.9 g/cm <sup>3</sup> (24.2 lbs/gal)
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· <b>Relative density:</b>	Not determined.
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· <b>Vapor density:</b>	Not applicable.
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· <b>Evaporation rate:</b>	Not applicable.
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· <b>Solubility in / Miscibility with Water at 20 °C (68 °F):</b>	920 g/l
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· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
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#### · Viscosity

· <b>Dynamic:</b>	Not applicable.
· <b>Kinematic:</b>	Not applicable.

· <b>Other information</b>	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**  
Reacts with strong acids.  
Reacts with certain metals.  
Reacts with strong oxidizing agents.  
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid**  
Excessive heat.  
Direct sunlight.
- **Incompatible materials**  
Metals.  
Acids.  
Oxidizers
- **Hazardous decomposition products**  
Under fire conditions only:  
Chlorine compounds  
Toxic metal oxide smoke

## 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:** Harmful if swallowed.
  - **LD/LC50 values that are relevant for classification:**
- |   |      |                  |
|---|------|------------------|
| <b>10025-77-1 Ferric chloride hexahydrate</b> |      |                  |
| Oral  | LD50 | 1872 mg/kg (rat) |
- **Primary irritant effect:**
  - **On the skin:** Irritant to skin and mucous membranes.
  - **On the eye:** Strong irritant with the danger of severe eye injury.
  - **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):**

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Causes serious eye damage.

Irritating to skin.

Harmful if swallowed.

- **Repeated dose toxicity:** No relevant information available.
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **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.
- **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. Residual materials should be treated as hazardous.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |                                       |   |
|---------------------------------------|---|
| · <b>UN-Number</b>                    |   |
| · <b>DOT, ADR/RID/ADN, IMDG, IATA</b> | UN3260  |
| · <b>UN proper shipping name</b>      |   |
| · <b>DOT, ADR/RID/ADN, IMDG, IATA</b> | CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.<br>(FERRIC CHLORIDE) |
| · <b>Transport hazard class(es)</b>   |   |

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· DOT



· Class 8  
· Label 8

· ADR/RID/ADN



· Class 8 (C2)  
· Label 8

· IMDG, IATA



· Class 8  
· Label 8

· Packing group

· DOT, ADR/RID/ADN, IMDG, IATA III

· Environmental hazards Not applicable.

· Special precautions for user Warning: Corrosive substances

· Hazard identification number (Kemler code): 80

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

· Transport/Additional information:

· DOT

· Hazardous substance: 1000 lbs, 454 kg

## 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 313 (Specific toxic chemical listings):

Substance is not listed.

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

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· **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):**

Substance is not listed.

## 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

OSHA: Occupational Safety & Health Administration

Met. Corr. 1: Corrosive to metals – Category 1

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

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., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel

1305 North Florida Avenue

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