

Safety Data Sheet

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

Printing date: March 01, 2019

Revision: February 27, 2019

1 Identification

- **Product identifier**
- **Trade name:** Ferric Nitrate Solution
- **Product code:** FE4095SS
- **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**
Met. Corr.1 H290 May be corrosive to metals.
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

- **Signal word:** Danger
- **Hazard statements:**
H290 May be corrosive to metals.
H315 Causes skin irritation.
H318 Causes serious eye damage.
- **Precautionary statements:**
P234 Keep only in original container.
P264 Wash thoroughly after handling.
P280 Wear protective gloves and eye protection.
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.

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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.

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

3 Composition/information on ingredients

• **Chemical characterization: Mixtures**

• **Components:**

7782-61-8	iron trinitrate	3.826%
	 Ox. Sol. 3, H272  Skin Corr. 1B, H314; Eye Dam. 1, H318	
7647-01-0	hydrochloric acid	4.514%
	 Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318  Acute Tox. 4, H302; STOT SE 3, H335	
7732-18-5	Water	91.660%

• **Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
 For the wording of the listed Hazard Statements, refer to section 16.

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:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

• **After eye contact:**

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:**

Eye damage.

Irritant to skin and mucous membranes.

Gastric or intestinal disorders when ingested.

Methaemoglobinaemia

• **Danger:** No relevant information available.

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

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

5 Fire-fighting measures

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- **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.
Substance/product is oxidizing when dry.
- **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.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
Ensure adequate ventilation.
- **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**
Use limestone to neutralize and/or absorb spill.
Neutralized material is an oxidizer.
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

- **Handling**
- **Precautions for safe handling:**
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.
Unsuitable material for receptacle: steel.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with alkalis (caustic solutions).
- **Further information about storage conditions:**
Keep containers tightly sealed.
Prevent from drying out.

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- **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:

7647-01-0 hydrochloric acid

PEL (USA)	Ceiling limit value: 7 mg/m ³ , 5 ppm
REL (USA)	Ceiling limit value: 7 mg/m ³ , 5 ppm
TLV (USA)	Ceiling limit value: 2.98 mg/m ³ , 2 ppm
EL (Canada)	Ceiling limit value: 2 ppm
EV (Canada)	Ceiling limit value: 2 ppm
LMPE (Mexico)	Ceiling limit value: 2 ppm
	A4

• 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.

• Protection of hands:



Protective gloves

• Material of gloves

Nitrile rubber, NBR

Neoprene gloves

Butyl rubber, BR

Natural rubber, NR

Fluorocarbon rubber (Viton)

Sensibilization by the components in the glove materials is possible.

• Not suitable are gloves made of the following materials: Chloroprene rubber, CR

• Eye protection:



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

• Body protection: Acid resistant protective clothing.

• Limitation and supervision of exposure into the environment

No relevant information available.

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9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance:

Form: Liquid
Color: Colorless

Odor: Acrid
Odor threshold: Not determined.

pH-value at 20 °C (68 °F): <2.0
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: Contains oxidizing agent.

Vapor pressure: Not determined.

Density:

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

Solubility in / Miscibility with

Water: Fully miscible.

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

Viscosity

Dynamic: Not determined.
Kinematic: Not determined.

Other information: No relevant information available.

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 alkali (lyes).
Corrosive action on metals.

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Reacts with metals forming hydrogen.
Toxic fumes may be released if heated above the decomposition point.
Substance/product is oxidizing when dry.

· **Conditions to avoid** No relevant information available.

· **Incompatible materials**

Alkalis

Metals.

Organic materials

· **Hazardous decomposition products**

Hydrogen

Under fire conditions only:

Chlorine compounds

Nitrogen oxides

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:** None.

· **Primary irritant effect:**

· **On the skin:** Irritant to 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):**

7647-01-0 | hydrochloric acid

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· **NTP (National Toxicology Program):**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

· **Probable route(s) of exposure:**

Ingestion.

Inhalation.

Eye contact.

Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):**

Irritating to skin.

Causes serious eye damage.

· **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

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- **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:**
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. If the dilution of the use-level pH-value is considerably increased after use, the aqueous waste, emptied into drains, is only low water-dangerous.
- **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. Residual materials should be treated as hazardous.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|----------------------------|
| · UN-Number | |
| · DOT, ADR/RID/ADN, IMDG, IATA | UN1789 |
| · UN proper shipping name | |
| · DOT | Hydrochloric acid solution |
| · ADR/RID/ADN, IMDG, IATA | HYDROCHLORIC ACID SOLUTION |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 |
| · Label | 8 |

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· ADR/RID/ADN



· Class 8 (C1)
 · 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
 · Danger code (Kemler): 80
 · EMS Number: F-A, S-B
 · Segregation groups Acids

· 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: 5 L
 On cargo aircraft only: 60 L

15 Regulatory information

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

· Section 302 (extremely hazardous substances):

None of the ingredients are listed.

· Section 355 (extremely hazardous substances):

7647-01-0 hydrochloric acid

· Section 313 (Specific toxic chemical listings):

7782-61-8 iron trinitrate

7647-01-0 hydrochloric acid

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

7647-01-0 hydrochloric acid

7732-18-5 Water

• **Proposition 65 (California)**

• **Chemicals known to cause cancer:**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

7647-01-0 hydrochloric acid

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• **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

OSHA: Occupational Safety & Health Administration

Ox. Sol. 3: Oxidizing solids – Category 3

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

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

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

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

• **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:

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Safety Data Sheets, Individual Manufacturers

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