

Safety Data Sheet

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

Revision: January 28, 2021

1 Identification

- **Product identifier**
- **Trade name: Iron #1**
- **Product code:** FE3108-B
- **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.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Dam. 1 H318 Causes serious eye damage.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- Carc. 2 H351 Suspected of causing cancer.
- STOT RE 2 H373 May cause damage to the spleen and the blood through prolonged or repeated exposure.

· Label elements

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms:



GHS05 GHS07 GHS08

· Signal word: Danger

· Hazard statements:

H290 May be corrosive to metals.
H315 Causes skin irritation.

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H318 Causes serious eye damage.
 H317 May cause an allergic skin reaction.
 H351 Suspected of causing cancer.
 H373 May cause damage to the spleen and the blood through prolonged or repeated exposure.

Precautionary statements:

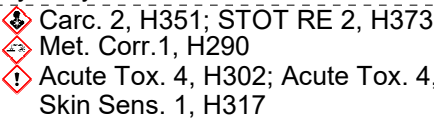
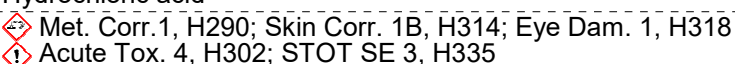
P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P234 Keep only in original container.
 P260 Do not breathe mist/vapors/spray.
 P264 Wash thoroughly after handling.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P302+P352 If on skin: Wash with plenty of soap and 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.
 P308+P313 IF exposed or concerned: Get medical advice/attention.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 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: Mixtures

Components:

7732-18-5	Water	>90%
5470-11-1	hydroxylammonium chloride 	<5%
7647-01-0	Hydrochloric acid 	<6%

Additional information:

For the wording of the listed Hazard Statements, refer to section 16.

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.

4 First-aid measures

Description of first aid measures

General information: Immediately remove any clothing soiled by the product.

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- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation or rash occurs: Get medical advice/attention.
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:**
Causes skin irritation.
Coughing
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.
Breathing difficulty
Allergic reactions
- **Danger:**
Causes serious eye damage.
Suspected of causing cancer.
- **Indication of any immediate medical attention and special treatment needed:**
Medical supervision for at least 48 hours.
Contains hydroxylammonium chloride. May produce an allergic reaction.
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**
Formation of toxic gases is possible during heating or in case of fire.
- **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.
Protect from heat.
- **Environmental precautions**

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Do not allow to enter sewers/ surface or ground water.

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

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

Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).

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:**

Prevent formation of aerosols.

Avoid splashes or spray in enclosed areas.

Use only in well ventilated areas.

· **Information about protection against explosions and fires:** Substance/product is oxidizing when dry.

· **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.

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

Store away from foodstuffs.

Store away from metals.

Do not store together with alkalis (caustic solutions).

· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Keep containers tightly sealed.

Prevent from drying out.

· **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 following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

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

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LMPE (Mexico)	Ceiling limit value: 2 ppm A4
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- **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.
Do not inhale gases / fumes / aerosols.
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 aerosol or mist is formed.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- **Material of gloves**
Neoprene gloves
Butyl rubber, BR
Natural rubber, NR
Fluorocarbon rubber (Viton)
Nitrile rubber, NBR
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **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.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **Appearance:**
 - **Form:** Liquid
 - **Color:** Clear, colorless
- **Odor:** Not determined.
- **Odor threshold:** Not determined.

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· pH-value at 20 °C (68 °F):	<2.0 (Estimate)
· Melting point/Melting range:	Not determined.
· Boiling point/Boiling range:	105-110 °C (221-166 °F)
· 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 at 20 °C (68 °F):	0.98-1.04 g/cm ³ (8.18-8.68 lbs/gal)
· 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**
Corrosive action on metals.
Reacts with base metals forming hydrogen.
Reacts with alkali (lyes).
Toxic fumes may be released if heated above the decomposition point.
Substance/product is oxidizing when dry.
- **Conditions to avoid**
Excessive heat.
Store away from oxidizing agents.
Keep/Store away from clothing/combustible materials.
- **Incompatible materials**

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Alkalis

Metals.

· **Hazardous decomposition products**

Under fire conditions only:

Chlorine compounds

Ammonia

Carbon monoxide and carbon dioxide

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

5470-11-1 hydroxylammonium chloride

Oral | LD50 | 408 mg/kg (mouse)

· **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:** Sensitization possible through skin contact.

· **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):**

Causes serious eye damage.

Irritating to skin.

· **Repeated dose toxicity:**

Possible risk of irreversible effects.

Repeated exposure may result in skin sensitivity.

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

· **Carcinogenicity:** Suspected of causing cancer.

· **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**

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- **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 product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
- **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

- **UN-Number**
- **DOT, ADR/RID/ADN, IMDG, IATA** UN1789
- **UN proper shipping name**
- **DOT** Hydrochloric acid
- **ADR/RID/ADN, IMDG, IATA** HYDROCHLORIC ACID

- **Transport hazard class(es)**

- **DOT**



- **Class** 8
- **Label** 8

- **ADR/RID/ADN**



- **Class** 8 (C1)
- **Label** 8

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· **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
· **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.

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 313 (Specific toxic chemical listings):**

7647-01-0 Hydrochloric acid

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

7647-01-0 Hydrochloric acid

5470-11-1 hydroxylammonium chloride

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.

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· **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):**

None of the ingredients are 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 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

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

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

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

· **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