# Safety Data Sheet
## acc. to OSHA HCS

Printing date 06/17/2024 Reviewed on 06/17/2024

## 1 Identification

· **Product identifier**

· **Trade name: Iron Std. 10.0 mg/L**
**1 ml = 0.01 mg Fe ASTM E-200,E-394-15**

· **Article number:** 4851

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Aqua Solutions, Inc.
6913 Highway 225
DEER PARK, TX 77536
USA
800-256-2586

· **Information department:**
Technical Coordinator
Sherman Nelson shermann@aquasolutions.org
Technical Coordinator
Sherman Nelson shermann@aquasolutions.org
· **Emergency telephone number:**
Chemtrec: 800-424-9300
Canutec: 613-996-6666

* 
## 2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS08 Health hazard

Carcinogenicity 1A H350 May cause cancer.

· **Label elements**
· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Sulfuric Acid 96 - 98%
· **Hazard statements**
May cause cancer.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

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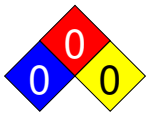
(Contd. of page 1)

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**




Health = 0
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

| | |
|---|---|
| HEALTH | 1 |
| FIRE | 0 |
| REACTIVITY | 0 |

Health = 1
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

| · **Dangerous components:** | | |
|---|---|---|
| CAS: 7664-93-9 | Sulfuric Acid 96 - 98% | 0.367% |

| · **Table of Nonhazardous Ingredients** | | |
|---|---|---|
| CAS: 7732-18-5 | Water | 99.626% |
| CAS: 7783-85-9 | Ferrous Ammonium Sulfate | 0.007% |

## 4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If symptoms persist consult doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

## 5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.



(Contd. on page 3)

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(Contd. of page 2)

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.
· **Environmental precautions:** Dilute with plenty of water.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
· **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.
· **Protective Action Criteria for Chemicals**

| · **PAC-1:** | | |
|---|---|---|
| CAS: 7664-93-9 | Sulfuric Acid 96 - 98% | 0.20 mg/m³ |
| CAS: 7783-85-9 | Ferrous Ammonium Sulfate | 9.6 mg/m³ |

| · **PAC-2:** | | |
|---|---|---|
| CAS: 7664-93-9 | Sulfuric Acid 96 - 98% | 8.7 mg/m³ |
| CAS: 7783-85-9 | Ferrous Ammonium Sulfate | 110 mg/m³ |

| · **PAC-3:** | | |
|---|---|---|
| CAS: 7664-93-9 | Sulfuric Acid 96 - 98% | 160 mg/m³ |
| CAS: 7783-85-9 | Ferrous Ammonium Sulfate | 640 mg/m³ |

## 7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
· **Information about protection against explosions and fires:** Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Specific end use(s)** No further relevant information available.

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## 8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**

| · **Components with limit values that require monitoring at the workplace:** | |
|---|---|
| **CAS: 7664-93-9 Sulfuric Acid 96 - 98%** | |
| PEL | Long-term value: 1 mg/m³ |
| REL | Long-term value: 1 mg/m³ |

(Contd. on page 4)

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(Contd. of page 3)

| | |
|---|---|
| TLV | Long-term value: 0.2* mg/m³<br>*as thoracic fraction, A2 |

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **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:**

Tightly sealed goggles

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

| | |
|---|---|
| **Form:** | Liquid |
| **Color:** | Clear |
| · **Odor:** | Odorless |
| · **Odor threshold:** | Not determined. |
| · **pH-value:** | Not determined. |
| · **Change in condition** | |
| **Melting point/Melting range:** | 0 °C (32 °F) |
| **Boiling point/Boiling range:** | 100 °C (212 °F) |

(Contd. on page 5)

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(Contd. of page 4)

| | |
|---|---|
| · **Flash point:** | Not applicable. |
| · **Flammability (solid, gaseous):** | Not applicable. |
| · **Decomposition temperature:** | Not determined. |
| · **Ignition temperature:** | Product is not selfigniting. |
| · **Danger of explosion:** | Product does not present an explosion hazard. |
| · **Explosion limits:** | |
| **Lower:** | Not determined. |
| **Upper:** | Not determined. |
| · **Vapor pressure at 20 °C (68 °F):** | 23 hPa (17.3 mm Hg) |
| · **Density at 20 °C (68 °F):** | 1.00171 g/cm³ (8.35927 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. |
| · **Solvent content:** | |
| **Water:** | 99.6 % |
| **VOC content:** | 0.00 %<br>0.0 g/l / 0.00 lb/gal |
| **Solids content:** | 0.0 % |
| · **Other information** | No further relevant information available. |

## 10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.

(Contd. on page 6)

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(Contd. of page 5)

· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:

· **Carcinogenic categories**

| · IARC (International Agency for Research on Cancer) | | |
|---|---|---|
| CAS: 7664-93-9 | Sulfuric Acid 96 - 98% | 1 |

| · NTP (National Toxicology Program) | | |
|---|---|---|
| CAS: 7664-93-9 | Sulfuric Acid 96 - 98% | K |

| · OSHA-Ca (Occupational Safety & Health Administration) |
|---|
| None of the ingredients is listed. |

## 12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:** Not hazardous for water.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further 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.

· **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, ADN, IMDG, IATA | Not regulated |
| · UN proper shipping name | |
| · DOT, ADN, IMDG, IATA | Not regulated |
| · Transport hazard class(es) | |
| · DOT, ADN, IMDG, IATA | |
| · Class | Not regulated |

(Contd. on page 7)

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(Contd. of page 6)

| | |
|---|---|
| · **Packing group** | |
| · **DOT, IMDG, IATA** | Not regulated |
| · **Environmental hazards:** | |
| · **Marine pollutant:** | No |
| · **Special precautions for user** | Not applicable. |
| · **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |
| · **UN "Model Regulation":** | Not regulated |

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## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

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

| | |
|---|---|
| CAS: 7664-93-9 | Sulfuric Acid 96 - 98% |

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

| | |
|---|---|
| CAS: 7664-93-9 | Sulfuric Acid 96 - 98% |

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

| | |
|---|---|
| Water | ACTIVE |
| Sulfuric Acid 96 - 98% | ACTIVE |

· **Hazardous Air Pollutants**
None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

| | | |
|---|---|---|
| CAS: 7664-93-9 | Sulfuric Acid 96 - 98% | A2 |

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

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

(Contd. on page 8)

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(Contd. of page 7)

· **Hazard pictograms**

GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Sulfuric Acid 96 - 98%
· **Hazard statements**
May cause cancer.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**
· **Additional classification according to Decree on Hazardous Materials:**
Carcinogenic hazardous material group III (dangerous).

· **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
Exceptions can be made by the authorities in certain cases.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* 
## 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.

· **Department issuing SDS:** Environment protection department.
· **Contact:**
Date of Preparation / Last Revision:
· **Date of preparation / last revision**
Revision 0.1, 06/17/2024: Reviewed SDS for accuracy. MH/STN
Revision 0.1 09-26-2018: reviewed and updated SDS. STN
06/17/2024 / 1.0
· **Abbreviations and acronyms:**
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit

(Contd. on page 9)

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(Contd. of page 8)

*REL: Recommended Exposure Limit*
*Carcinogenicity 1A: Carcinogenicity – Category 1A*
· **** Data compared to the previous version altered.***