

Iron Standard, 2.0ppm as Fe

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).
Date of Issue: 09/02/2022 Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Iron Standard, 2.0ppm as Fe

Product Code: IS1220SS

1.2. Intended Use of the Product

Use Of The Substance/Mixture: Laboratory chemicals.

1.3. Name, Address, and Telephone of the Responsible Party

Company

AquaPhoenix Scientific, Inc.

860 Gitts Run Road

Hanover, PA 17331 USA

Tel +1 (717)632-1291

Toll-Free: (866)632-1291

tech@aquaphoenixsci.com

www.aquaphoenixsci.com/

1.4. Emergency Telephone Number

Emergency Number : ChemTel LLC

(800)255-3924 (North America)

+1 (813)248-0585 (International)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Skin corrosion/irritation Category 2

H315

Serious eye damage/eye irritation Category 2

H319

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :



GHS07

Signal Word (GHS-US/CA) : Warning

Hazard Statements (GHS-US/CA) : H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

Precautionary Statements (GHS-US/CA) : P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.

P280 - Wear protective gloves, protective clothing, 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.

P321 - Specific treatment (see section 4 on this SDS).

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No additional information available

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

| Name | Synonyms | Product Identifier | % * | GHS Ingredient Classification |
|---|---|----------------------|--------|--|
| Water | water / AQUA | (CAS-No.) 7732-18-5 | 97.986 | Not classified |
| Sulfuric acid | Sulphuric acid / SULFURIC ACID / Hydrogen sulfate / Sulphuric acid ...% / sulfuric acid / Sulfuric acid ...% / Sulfuric acid (H2SO4) | (CAS-No.) 7664-93-9 | 2 | Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402 Aquatic Chronic 2, H411 |
| Sulfuric acid, iron(2+) ammonium salt (2:1:2) | Ferrous ammonium sulfate / Ammonium ferrous sulfate / Mohr's salt / Sulfuric acid, ammonium iron(2+) salt / Sulfuric acid, ammonium iron(2+) salt (2:2:1) / Sulfuric acid, ammonium iron(II) salt / Ferrous ammonium sulphate / Ferrous ammonium sulfate (Fe(NH4)2(SO4)2) / Diammonium iron(II) bis(sulphate) / Diammonium iron bis(sulfate) / Ferrous diammonium disulfate / Ammonium iron(II) sulfate / Ferrous ammonium sulfate anhydrous / Diammonium iron bis(sulphate) / FERROUS AMMONIUM SULFATE | (CAS-No.) 10045-89-3 | 0.014 | Not classified |

Full text of H-statements: see section 16

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Immediately drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

Eye Contact: Immediately rinse with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Causes skin irritation. Causes serious eye irritation.

Inhalation: Prolonged exposure may cause irritation.

Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: None expected under normal conditions of use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media suitable for surrounding type of fire. Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

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Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Sulfur compounds. Nitrogen oxides. Ammonia. Iron oxides. Irritating fumes.

5.4. Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid breathing (vapor, mist, spray). Avoid all contact with skin, eyes, or clothing.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Avoid the use of Expanded Polymeric or Cellulose-based absorbents. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Avoid generating mists.

Precautions for Safe Handling: Avoid contact with skin, eyes and clothing. Avoid breathing vapors, mist, spray. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Alkali metals.

7.3. Specific End Use(s)

Laboratory chemicals.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

| Sulfuric acid (7664-93-9) | | |
|---------------------------|-------------------------|---|
| USA ACGIH | ACGIH OEL TWA | 0.2 mg/m ³ (thoracic particulate matter) |
| USA ACGIH | ACGIH chemical category | Suspected Human Carcinogen contained in strong inorganic acid mists |
| USA OSHA | OSHA PEL (TWA) [1] | 1 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) | 1 mg/m ³ |

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| | | |
|------------------------------------|-----------------|---|
| USA IDLH | IDLH | 15 mg/m ³ |
| Alberta | OEL STEL | 3 mg/m ³ |
| Alberta | OEL TWA | 1 mg/m ³ |
| British Columbia | OEL TWA | 0.2 mg/m ³ (contained in strong inorganic acid mists-thoracic) |
| Manitoba | OEL TWA | 0.2 mg/m ³ (thoracic particulate matter) |
| New Brunswick | OEL STEL | 3 mg/m ³ |
| New Brunswick | OEL TWA | 1 mg/m ³ |
| Newfoundland & Labrador | OEL TWA | 0.2 mg/m ³ (thoracic particulate matter) |
| Nova Scotia | OEL TWA | 0.2 mg/m ³ (thoracic particulate matter) |
| Nunavut | OEL STEL | 0.6 mg/m ³ (thoracic fraction) |
| Nunavut | OEL TWA | 0.2 mg/m ³ (thoracic fraction) |
| Northwest Territories | OEL STEL | 0.6 mg/m ³ (thoracic fraction, strong acid mists only) |
| Northwest Territories | OEL TWA | 0.2 mg/m ³ (thoracic fraction, strong acid mists only) |
| Ontario | OEL TWA | 0.2 mg/m ³ (thoracic particulate matter) |
| Prince Edward Island | OEL TWA | 0.2 mg/m ³ (thoracic particulate matter) |
| Québec | VECD (OEL STEL) | 3 mg/m ³ |
| Québec | VEMP (OEL TWA) | 1 mg/m ³ |
| Saskatchewan | OEL STEL | 0.6 mg/m ³ (thoracic fraction) |
| Saskatchewan | OEL TWA | 0.2 mg/m ³ (thoracic fraction) |
| Yukon | OEL STEL | 1 mg/m ³ |
| Yukon | OEL TWA | 1 mg/m ³ |

8.2. Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective goggles or glasses. Gloves. Protective clothing.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Goggles or safety glasses with side-shields.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Environmental Exposure Controls: Avoid unnecessary release into the environment.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

| | |
|----------------------------------|---------------------|
| Physical State | : Liquid |
| Appearance | : Colorless |
| Odor | : None |
| Odor Threshold | : No data available |
| pH | : No data available |
| Evaporation Rate | : No data available |
| Melting Point | : No data available |
| Freezing Point | : No data available |
| Boiling Point | : No data available |
| Flash Point | : No data available |
| Auto-ignition Temperature | : No data available |

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| | |
|---|---------------------|
| Decomposition Temperature | : No data available |
| Flammability | : Not applicable |
| Lower Flammable Limit | : No data available |
| Upper Flammable Limit | : No data available |
| Vapor Pressure | : No data available |
| Relative Vapor Density at 20°C | : No data available |
| Relative Density | : No data available |
| Specific Gravity | : No data available |
| Solubility | : Water: Soluble |
| Partition Coefficient: N-Octanol/Water | : No data available |
| Viscosity | : No data available |

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability:

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions:

Hazardous polymerization will not occur.

10.4. Conditions to Avoid:

Direct sunlight, extremely high or low temperatures, and incompatible materials.

10.5. Incompatible Materials:

Strong acids, strong bases, strong oxidizers. Alkali metals.

10.6. Hazardous Decomposition Products:

Thermal decomposition may produce: Sulfur compounds. Nitrogen oxides. Ammonia. Iron oxides. Irritating fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity (Oral): Not classified (Based on available data, the classification criteria are not met)

Acute Toxicity (Dermal): Not classified (Based on available data, the classification criteria are not met)

Acute Toxicity (Inhalation): Not classified (Based on available data, the classification criteria are not met)

LD50 and LC50 Data:

No additional information available

Skin Corrosion/Irritation: Causes skin irritation. (Based on available data, the classification criteria are not met)

Eye Damage/Irritation: Causes serious eye irritation. (Based on available data, the classification criteria are not met)

Respiratory or Skin Sensitization: Not classified (Based on available data, the classification criteria are not met)

Germ Cell Mutagenicity: Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity: Not classified (Based on available data, the classification criteria are not met)

Specific Target Organ Toxicity (Repeated Exposure): Not classified (Based on available data, the classification criteria are not met)

Reproductive Toxicity: Not classified (Based on available data, the classification criteria are not met)

Specific Target Organ Toxicity (Single Exposure): Not classified (Based on available data, the classification criteria are not met)

Aspiration Hazard: Not classified (Based on available data, the classification criteria are not met)

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: None expected under normal conditions of use.

Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

| | |
|---|------------|
| Sulfuric acid (7664-93-9) | |
| LD50 Oral Rat | 2140 mg/kg |
| Sulfuric acid, iron(2+) ammonium salt (2:1:2) (10045-89-3) | |
| LD50 Oral Rat | 3250 mg/kg |

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| | |
|--|---|
| Sulfuric acid (7664-93-9) | |
| IARC Group | 1 |
| OSHA Hazard Communication Carcinogen List | In OSHA Hazard Communication Carcinogen list. |

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Not classified.

| | |
|----------------------------------|--|
| Sulfuric acid (7664-93-9) | |
| LC50 Fish 1 | 500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static]) |
| EC50 - Crustacea [1] | 29 mg/l |
| LC50 Fish 2 | 42 mg/l (Exposure time: 96 h - Species: Gambusia affinis [static]) |
| NOEC Chronic Fish | 0.025 mg/l |

12.2. Persistence and Degradability

| | |
|--------------------------------------|------------------|
| Iron Standard, 2.0ppm as Fe | |
| Persistence and Degradability | Not established. |

12.3. Bioaccumulative Potential

| | |
|------------------------------------|----------------------|
| Iron Standard, 2.0ppm as Fe | |
| Bioaccumulative Potential | Not established. |
| Sulfuric acid (7664-93-9) | |
| BCF Fish 1 | (no bioaccumulation) |

12.4. Mobility in Soil

| | |
|------------------------------------|------------------------------|
| Iron Standard, 2.0ppm as Fe | |
| Ecology - Soil | Leaches if exposed to water. |

12.5. Other Adverse Effects

Other Adverse Effects: None known.

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: Do not dispose of waste into sewer.

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Ecology - Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Not regulated for transport

14.2. In Accordance with IMDG

Not regulated for transport

14.3. In Accordance with IATA

Not regulated for transport

14.4. In Accordance with TDG

Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

| | |
|--|--|
| Iron Standard, 2.0ppm as Fe | |
| SARA Section 311/312 Hazard Classes | Health hazard - Skin corrosion or Irritation Health hazard - Serious eye damage or eye irritation |
| Water (7732-18-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active | |
| Sulfuric acid (7664-93-9) | |

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| | |
|--|--|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on the United States SARA Section 302 | |
| Subject to reporting requirements of United States SARA Section 313 | |
| CERCLA RQ | 1000 lb |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 1000 lb |
| SARA Section 313 - Emission Reporting | 1 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size) |
| Sulfuric acid, iron(2+) ammonium salt (2:1:2) (10045-89-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active | |
| CERCLA RQ | 1000 lb |

15.2. US State Regulations

| |
|--|
| Sulfuric acid (7664-93-9) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Sulfuric acid, iron(2+) ammonium salt (2:1:2) (10045-89-3) |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List |

15.3. Canadian Regulations

| |
|---|
| Water (7732-18-5) |
| Listed on the Canadian DSL (Domestic Substances List) |
| Sulfuric acid (7664-93-9) |
| Listed on the Canadian DSL (Domestic Substances List) |
| Sulfuric acid, iron(2+) ammonium salt (2:1:2) (10045-89-3) |
| Listed on the Canadian DSL (Domestic Substances List) |

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

| | |
|---|---|
| Date of Preparation or Latest Revision | : 09/02/2022 |
| Other Information | : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17. |

GHS Full Text Phrases:

| | |
|------|---|
| H290 | May be corrosive to metals |
| H314 | Causes severe skin burns and eye damage |
| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H402 | Harmful to aquatic life |
| H411 | Toxic to aquatic life with long lasting effects |

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.