

# Ferric Chloride 2M

## 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: 02/09/2022 Version: 1.0

### SECTION 1: IDENTIFICATION

#### 1.1. Product Identifier

**Product Form:** Mixture

**Product Name:** Ferric Chloride 2M

**Product Code:** FE3020SS

#### 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

#### 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

Met. Corr. 1 H290

Acute Tox. 4 (Oral) H302

Skin Corr. 1B H314

Eye Dam. 1 H318

Full text of hazard classes and H-statements : see section 16

#### 2.2. Label Elements

##### GHS-US/CA Labeling

##### Hazard Pictograms (GHS-US/CA)



##### Signal Word (GHS-US/CA)

: Danger

##### Hazard Statements (GHS-US/CA)

: H290 - May be corrosive to metals.

H302 - Harmful if swallowed.

H314 - Causes severe skin burns and eye damage.

H318 - Causes serious eye damage.

##### Precautionary Statements (GHS-US/CA)

: P234 - Keep only in original container.

P260 - Do not breathe vapors, mist, or spray.

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P280 - Wear protective gloves, protective clothing, and eye protection.

P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

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contact lenses, if present and easy to do. Continue rinsing.  
P310 - Immediately call a POISON CENTER or doctor.  
P321 - Specific treatment (see section 4 on this SDS).  
P330 - Rinse mouth.  
P363 - Wash contaminated clothing 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, and international regulations.

### 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

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substance

Not applicable

### 3.2. Mixture

| Name                        | Synonyms                                                                                                                                                                                                                                                            | Product Identifier   | % *   | GHS Ingredient Classification                                                              |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------|--------------------------------------------------------------------------------------------|
| Ferric chloride hexahydrate | Iron chloride (FeCl <sub>3</sub> ), hexahydrate / Iron trichloride hexahydrate / Iron(3+) chloride, hexahydrate / Iron(III) chloride, hexahydrate / Iron(III) chloride hexahydrate / Iron chloride, hexahydrate / Ferric chloride / Ferric Trichloride, hexahydrate | (CAS-No.) 10025-77-1 | 54.06 | Met. Corr. 1, H290<br>Acute Tox. 4 (Oral), H302<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318 |
| Water                       | AQUA / water                                                                                                                                                                                                                                                        | (CAS-No.) 7732-18-5  | 45.94 | 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:** Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

**Skin Contact:** Immediately remove contaminated clothing. Immediately flush skin with plenty of water for at least 30 minutes. Get immediate medical advice/attention.

**Eye Contact:** Immediately rinse with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

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

### 4.2. Most Important Symptoms and Effects Both Acute and Delayed

**General:** Harmful if swallowed. Causes severe skin burns and eye damage.

**Inhalation:** May be corrosive to the respiratory tract.

**Skin Contact:** Causes severe irritation which will progress to chemical burns.

**Eye Contact:** Causes permanent damage to the cornea, iris, or conjunctiva.

**Ingestion:** This material is harmful orally and can cause adverse health effects or death in significant amounts. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Inorganic iron salts may cause damage to liver after ingestion of large quantities.

**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.

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### SECTION 5: FIRE-FIGHTING MEASURES

#### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Not flammable. Use extinguishing media suitable for surrounding type of fire. Water spray, fog, carbon dioxide (CO<sub>2</sub>), alcohol-resistant foam, or dry chemical.

**Unsuitable Extinguishing Media:** None known. 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.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** May be corrosive to metals. Adding an acid to a base or base to an acid may cause a violent reaction.

#### 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:** Iron oxides. Chlorides. Corrosive vapors.

#### 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:** Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray.

##### 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. As an immediate precautionary measure, isolate spill or leak area in all directions.

**Methods for Cleaning Up:** Absorb and/or contain spill with inert material. Contact competent authorities after a large spill. Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Absorb spillage to prevent material damage. Cautiously neutralize spilled liquid.

#### 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:** May be corrosive to metals. May release corrosive vapors.

**Precautions for Safe Handling:** Do not breathe mist/vapors/spray. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle empty containers with care because they may still present a hazard. Do not get in eyes, on skin, or on clothing.

**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. Store in corrosive resistant container with a resistant inner liner. Store in original container or corrosive resistant and/or lined container. Store locked up/in a secure area.

**Incompatible Materials:** Strong acids, strong bases, strong oxidizers. Metals. May be corrosive to metals. Aluminum. Copper.

#### 7.3. Specific End Use(s)

Laboratory chemicals.

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### 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.

#### 8.2. Exposure Controls

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

**Personal Protective Equipment:** Gloves. Protective clothing. Protective goggles. Face shield. Insufficient ventilation: wear respiratory protection.



**Materials for Protective Clothing:** Chemically resistant materials and fabrics. Corrosion-proof clothing.

**Hand Protection:** Wear protective gloves.

**Eye and Face Protection:** Chemical safety goggles and face shield.

**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                             | : Brown liquid      |
| Odor                                   | : No data available |
| 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 |
| Decomposition Temperature              | : No data available |
| Flammability (solid, gas)              | : 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                             | : No data available |
| Partition Coefficient: N-Octanol/Water | : No data available |
| Viscosity                              | : No data available |

### SECTION 10: STABILITY AND REACTIVITY

#### 10.1. Reactivity:

May be corrosive to metals. Adding an acid to a base or base to an acid may cause a violent reaction.

#### 10.2. Chemical Stability:

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

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### 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. Metals. May be corrosive to metals.

### 10.6. Hazardous Decomposition Products:

Not expected to decompose under ambient conditions.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on Toxicological Effects - Product

**Acute Toxicity (Oral):** Harmful if swallowed. (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:

|                    |                            |
|--------------------|----------------------------|
| Ferric Chloride 2M |                            |
| ATE US/CA (oral)   | 1,664.82 mg/kg body weight |

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

**Eye Damage/Irritation:** Causes serious eye damage. (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:** May be corrosive to the respiratory tract.

**Symptoms/Injuries After Skin Contact:** Causes severe irritation which will progress to chemical burns.

**Symptoms/Injuries After Eye Contact:** Causes permanent damage to the cornea, iris, or conjunctiva.

**Symptoms/Injuries After Ingestion:** This material is harmful orally and can cause adverse health effects or death in significant amounts. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Inorganic iron salts may cause damage to liver after ingestion of large quantities.

**Chronic Symptoms:** None expected under normal conditions of use.

### 11.2. Information on Toxicological Effects - Ingredient(s)

#### LD50 and LC50 Data:

|                                          |           |
|------------------------------------------|-----------|
| Ferric chloride hexahydrate (10025-77-1) |           |
| LD50 Oral Rat                            | 900 mg/kg |

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecology - General:** Not classified.

### 12.2. Persistence and Degradability

|                               |                  |
|-------------------------------|------------------|
| Ferric Chloride 2M            |                  |
| Persistence and Degradability | Not established. |

### 12.3. Bioaccumulative Potential

|                           |                  |
|---------------------------|------------------|
| Ferric Chloride 2M        |                  |
| Bioaccumulative Potential | Not established. |

### 12.4. Mobility in Soil

|                    |                              |
|--------------------|------------------------------|
| Ferric Chloride 2M |                              |
| Ecology - Soil     | Leaches if exposed to water. |

### 12.5. Other Adverse Effects

**Other Adverse Effects:** None known.

**Other Information:** Avoid release to the environment.

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### SECTION 13: DISPOSAL CONSIDERATIONS

#### 13.1. Waste treatment methods

**Waste Treatment Methods:** Can be landfilled, when in compliance with local regulations.

**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.

**Additional Information:** Empty containers may be recycled after cleaning.

**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

**Proper Shipping Name** : FERRIC CHLORIDE, SOLUTION

**Hazard Class** : 8

**Identification Number** : UN2582

**Label Codes** : 8

**Packing Group** : III

**ERG Number** : 154



#### 14.2. In Accordance with IMDG

**Proper Shipping Name** : FERRIC CHLORIDE SOLUTION

**Hazard Class** : 8

**Identification Number** : UN2582

**Label Codes** : 8

**Packing Group** : III

**EmS-No. (Fire)** : F-A

**EmS-No. (Spillage)** : S-B



#### 14.3. In Accordance with IATA

**Proper Shipping Name** : FERRIC CHLORIDE SOLUTION

**Hazard Class** : 8

**Identification Number** : UN2582

**Label Codes** : 8

**Packing Group** : III

**ERG Code (IATA)** : 8L



#### 14.4. In Accordance with TDG

**Proper Shipping Name** : FERRIC CHLORIDE SOLUTION

**Hazard Class** : 8

**Identification Number** : UN2582

**Label Codes** : 8

**Packing Group** : III



### SECTION 15: REGULATORY INFORMATION

#### 15.1. US Federal Regulations

|                                     |                                                                                                                                                                                                         |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ferric Chloride 2M                  |                                                                                                                                                                                                         |
| SARA Section 311/312 Hazard Classes | Physical hazard - Corrosive to metals<br>Health hazard - Acute toxicity (any route of exposure)<br>Health hazard - Serious eye damage or eye irritation<br>Health hazard - Skin corrosion or Irritation |

#### Water (7732-18-5)

|                                                                                            |
|--------------------------------------------------------------------------------------------|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active |
|--------------------------------------------------------------------------------------------|

#### 15.2. US State Regulations

|                            |
|----------------------------|
| Ferric Chloride 2M         |
| State or local regulations |

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### 15.3. Canadian Regulations

#### Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

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

Date of Preparation or Latest : 02/09/2022

#### Revision

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:

|                     |                                              |
|---------------------|----------------------------------------------|
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4             |
| Eye Dam. 1          | Serious eye damage/eye irritation Category 1 |
| Met. Corr. 1        | Corrosive to metals Category 1               |
| Skin Corr. 1B       | Skin corrosion/irritation Category 1B        |
| H290                | May be corrosive to metals                   |
| H302                | Harmful if swallowed                         |
| H314                | Causes severe skin burns and eye damage      |
| H318                | Causes serious eye damage                    |

*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.*

NA GHS SDS 2015 (Can, US)