

**Safety Data Sheet**

according to 29CFR1910/1200 and GHS Rev. 3

**Initial preparation date:** : 01.07.2015**Ferrous Sulfate, 1M****SECTION 1: Identification of the substance/mixture and of the supplier****Product name:** Ferrous Sulfate, 1M**Manufacturer/Supplier Article number:** S25326**Recommended uses of the product and restrictions on use:** Laboratory Chemicals**Manufacturer Details:**

AquaPhoenix Scientific  
860 Gitts Run Road,  
Hanover, PA 17331  
(717) 632-1291

**Supplier Details:**

Fisher Science Education  
6771 Silver Crest Road, Nazareth, PA 18064  
800 955-1177

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification****Classification of the substance or mixture:****Irritant**

Acute toxicity (oral, dermal, inhalation), category 4  
Skin irritation, category 2  
Eye irritation, category 2A

Acute Tox. 4.  
Skin Irrit. 2.  
Eye Irrit. 2A.  
Corr. Metals.

**Signal word:** Warning**Hazard statements:**

May be corrosive to metals.  
Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
Rinse mouth.  
IF ON SKIN: Wash with soap and water.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.  
Continue rinsing.

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If skin irritation occurs: Get medical advice/attention.  
 If eye irritation persists get medical advice/attention.  
 Take off contaminated clothing and wash before reuse.  
 Dispose of contents/container.

**Other Non-GHS Classification:** None**SECTION 3: Composition/information on ingredients****Ingredients:**

<b>Ingredients:</b>		
CAS 7782-63-0	Ferrous sulfate heptahydrate	<22 %
CAS 7664-93-9	Sulfuric Acid	<1 %
CAS 7732-18-5	Deionized Water	<77 %
Percentages are by weight		

**SECTION 4: First aid measures****Description of first aid measures****After inhalation:**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. If breathing difficult, give oxygen. Get medical attention.

**After skin contact:**

Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Wash affected area with soap and water. Rinse/flush exposed skin gently using water for 15-20 minutes. Get medical attention.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek immediate medical attention or advice.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Get medical attention.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

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

If seeking medical attention, provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media****Suitable extinguishing agents:**

Use water spray, dry chemical, carbon dioxide, or chemical foam.

**Unsuitable extinguishing agents:** None**Special hazards arising from the substance or mixture:**

Thermal decomposition can lead to release of irritating gases and vapors. Contact with most metals generates

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flammable and explosive hydrogen gas.

**Advice for firefighters:****Protective equipment:**

Wear protective eyewear, gloves, and clothing. Refer to Section 8.

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes and clothing.

**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures:**

Use spark-proof tools and explosion-proof equipment. Ensure adequate ventilation. Ensure that air-handling systems are operational.

**Environmental precautions:**

Should not be released into the environment.

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

Cover the spill with Sodium Carbonate or a soda ash - slaked lime mixture. Absorb with suitable material and containerize for disposal. Wear protective eyewear, gloves, and clothing. Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13. Keep in suitable closed containers for disposal. Refer to Section 8.

**Reference to other sections:** None**SECTION 7: Handling and storage****Precautions for safe handling:**

Avoid contact with skin, eyes and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Do not eat, drink, smoke, or use personal products when handling chemical substances. Refer to Section 13.

**Conditions for safe storage, including any incompatibilities:**

Store away from incompatible materials. Avoid storage near extreme heat, ignition sources or open flame. Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly closed.

**SECTION 8: Exposure controls/personal protection****Control parameters:**

7782-63-0, Ferrous sulfate heptahydrate, TWA 1 mg/m<sup>3</sup> USA. ACGIH.  
 7782-63-0, Ferrous sulfate heptahydrate, TWA 1 mg/m<sup>3</sup> USA. OSHA.  
 7782-63-0, Ferrous sulfate heptahydrate, TWA 1 mg/m<sup>3</sup> USA. NIOSH.  
 7664-93-9, Sulfuric acid, TWA 0.2 mg/m<sup>3</sup> USA. ACGIH.  
 7664-93-9, Sulfuric acid, TWA 1 mg/m<sup>3</sup> USA. OSHA.  
 7664-93-9, Sulfuric acid, TWA 1 mg/m<sup>3</sup> USA. OSHA.

**Appropriate engineering controls:**

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

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<b>Respiratory protection:</b>	Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.
<b>Protection of skin:</b>	Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.
<b>Eye protection:</b>	Safety glasses with side shields or goggles. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
<b>General hygienic measures:</b>	Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes and clothing. Before re-wearing, wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear colorless liquid to light green	<b>Explosion limit lower:</b>	Not determined
<b>Odor:</b>	Odorless	<b>Explosion limit upper:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor pressure at 20°C:</b>	Not determined
<b>pH-value:</b>	< 3	<b>Vapor density:</b>	Not determined
<b>Melting/Freezing point:</b>	Approximately 0°C	<b>Relative density:</b>	Not determined
<b>Boiling point/Boiling range:</b>	Approximately 100°C	<b>Solubilities:</b>	None
<b>Flash point (closed cup):</b>	Not determined	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Density at 20°C:</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Ferrous Sulfate</b>	Molecular Weight: 278.01		

**SECTION 10: Stability and reactivity****Reactivity:**

Nonreactive under normal conditions.

**Chemical stability:**

Stable under normal conditions.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Incompatible materials. Excess heat.

**Incompatible materials:**

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Strong bases, strong oxidizing agents, organics, chlorates, carbides, reducing agents, nitrates, fulminates.  
Contact with water will generate heat.

**Hazardous decomposition products:**

Sulphur oxides, Iron oxides.

**SECTION 11: Toxicological information****Acute Toxicity:** No additional information.**Chronic Toxicity:** No additional information.**Skin corrosion/irritation:**

Skin - 7664-93-9.

Rabbit Result: 7664-93-9.

Extremely corrosive and destructive to tissue 7664-93-9.

**Serious eye damage/irritation:**

Eyes - Rabbit Result: Corrosive to eyes 7664-93-9.

**Respiratory or skin sensitization:** No additional information.**Carcinogenicity:** No additional information.**Germ cell mutagenicity:** No additional information.**Reproductive Toxicity:** No additional information.**STOT-single and repeated exposure:** No additional information.**Additional toxicological information:**

No additional information.

**SECTION 12: Ecological information****Ecotoxicity:**7664-93-9, LC50 - *Gambusia affinis* (Mosquito fish) - 42 mg/l - 96 h.7664-93-9, EC50 - *Daphnia magna* (Water flea) - 29 mg/l - 24 h.**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.**Mobility in soil:** No additional information.**Other adverse effects:** No additional information.**SECTION 13: Disposal considerations****Waste disposal recommendations:**

Cover with Sodium Carbonate or a soda ash - slaked lime mixture. Add water to form slurry. Flush to sewer with large quantities of water. Treat solid residue as normal refuse, unless prohibited due to iron content in the substance. Dispose of empty containers as unused product. Product or containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

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**Ferrous Sulfate, 1M****SECTION 14: Transport information****US DOT****UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated

**Limited Quantity Exception:**

None

**Bulk:****RQ (if applicable):** None**Proper shipping Name:** Not Regulated.**Hazard Class:** None**Packing Group:** Not Regulated.**Marine Pollutant (if applicable):** No additional information.**Comments:** None**Non Bulk:****RQ (if applicable):** None**Proper shipping Name:** Not Regulated.**Hazard Class:** None**Packing Group:** Not Regulated.**Marine Pollutant (if applicable):** No additional information.**Comments:** None**SECTION 15: Regulatory information****United States (USA)****SARA Section 311/312 (Specific toxic chemical listings):**

Acute

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

7782-63-0 Ferrous Sulfate.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):**

7782-63-0 Ferrous sulfate heptahydrate 1000 lb.

7664-93-9 Sulfuric Acid 1000 lb.

**Proposition 65 (California):****Chemicals known to cause cancer:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Canada****Canadian Domestic Substances List (DSL) :**

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7782-63-0 Not listed.: not listed.

**SECTION 16: Other information**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 2-0-0**HMIS:** 2-0-0**GHS Full Text Phrases:** None**Abbreviations and Acronyms:**

IMDG	International Maritime Code for Dangerous Goods.
PNEC.	Predicted No-Effect Concentration (REACH).
CFR	Code of Federal Regulations (USA)
SARA	Superfund Amendments and Reauthorization Act (USA).
RCRA.	Resource Conservation and Recovery Act (USA).
TSCA.	Toxic Substances Control Act (USA).
NPRI	National Pollutant Release Inventory (Canada).
DOT	US Department of Transportation.
IATA	International Air Transport Association.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service (division of the American Chemical Society).
NFPA	National Fire Protection Association (USA).
HMIS	Hazardous Materials Identification System (USA).
WHMIS	Workplace Hazardous Materials Information System (Canada).
DNEL	Derived No-Effect Level (REACH).