

Safety Data Sheet

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

Revision: February 14, 2020

1 Identification

- **Product identifier**
- **Trade name: Ferrous Ammonium Sulfate Solution, 0.1M**
- **Product code:** S25854
- **Recommended use and restriction on use**
- **Recommended use:** Industrial uses.
- **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
Phone: (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
- **Distributor:**
Fisher Science Education
6771 Silver Crest Road,
Nazareth, PA 18064
(800) 955-1177
- **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**
The product is not classified as hazardous according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements:** Not regulated.
- **Hazard pictograms:** Not regulated.
- **Signal word:** None
- **Hazard statements:** None.
- **Precautionary statements:** None.
- **Other hazards:** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Components:**

7664-93-9	Sulfuric acid ☠ Met. Corr. 1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318	0.10%
7783-85-9	Ferrous ammonium sulfate ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	3.92%
7732-18-5	Water	95.98%

(Cont'd. on page 2)

Safety Data Sheet

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

Revision: February 14, 2020

Trade name: Ferrous Ammonium Sulfate Solution, 0.1M

(Cont'd. of page 1)

· Additional information:

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

· Description of first aid measures

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately rinse with water.
Seek medical treatment in case of complaints.
- **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, 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:**
Slight irritant effect on eyes.
Causes mild skin irritation.
May cause gastro-intestinal irritation if ingested.
- **Danger:** No relevant information available.
- **Indication of any immediate medical attention and special treatment needed:**
No relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
The product is not flammable.
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **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**
Ensure adequate ventilation.
For large spills, wear protective clothing.
- **Environmental precautions**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

(Cont'd. on page 3)

Safety Data Sheet

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

Revision: February 14, 2020

Trade name: Ferrous Ammonium Sulfate Solution, 0.1M

(Cont'd. of page 2)

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

Use limestone to neutralize and/or absorb spill.
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:**

Avoid splashes or spray in enclosed areas.
Prevent formation of aerosols.
Use only in well ventilated areas.

· **Information about protection against explosions and fires:** No special measures required.

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

· **Requirements to be met by storerooms and receptacles:**

Unsuitable material for receptacle: aluminium.

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

Store away from foodstuffs.
Do not store together with alkalis (caustic solutions).

· **Further information about storage conditions:** Keep containers tightly sealed.

· **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.

7664-93-9 Sulfuric acid

PEL (USA)	Long-term value: 1 mg/m ³
REL (USA)	Long-term value: 1 mg/m ³
TLV (USA)	Long-term value: 0.2* mg/m ³ *as thoracic fraction
EL (Canada)	Long-term value: 0.2 mg/m ³ ACGIH A2; IARC 1
EV (Canada)	Long-term value: 0.2 mg/m ³
LMPE (Mexico)	Long-term value: 0.2* mg/m ³ A2; *fracción torácica

· **Exposure controls**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.

(Cont'd. on page 4)

Safety Data Sheet

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

Revision: February 14, 2020

Trade name: Ferrous Ammonium Sulfate Solution, 0.1M

(Cont'd. of page 3)

- Wash hands before breaks and at the end of work.
- Avoid breathing mist, vapors, or spray.
- Avoid contact with the eyes.
- Avoid close or long term contact with the skin.
- **Engineering controls:** No relevant information available.
- **Breathing equipment:** Not required under normal conditions of use.
- **Protection of hands:**



Protective gloves

- **Material of gloves**
Nitrile rubber, NBR
Neoprene gloves
- **Eye protection:**



Safety glasses

- Follow relevant national guidelines concerning the use of protective eyewear.
- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment**
No relevant information available.
- **Risk management measures** No relevant information available.

9 Physical and chemical properties

· Information on basic physical and chemical properties

- **Appearance:**
 - **Form:** Liquid
 - **Color:** According to product specification
- **Odor:** Not determined.
- **Odor threshold:** Not determined.

- **pH-value:** Acidic
- **Melting point/Melting range:** 0 °C (32 °F)
- **Boiling point/Boiling range:** 100 °C (212 °F)

- **Flash point:** The product is not flammable.

- **Flammability (solid, gaseous):** Not applicable.

- **Auto-ignition temperature:** Not applicable.

- **Decomposition temperature:** Not determined.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits**
 - **Lower:** Not determined.
 - **Upper:** Not determined.
- **Oxidizing properties:** Non-oxidizing.

(Cont'd. on page 5)

Safety Data Sheet

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

Revision: February 14, 2020

Trade name: Ferrous Ammonium Sulfate Solution, 0.1M

(Cont'd. of page 4)

- | | |
|---|------------------------------------|
| · Vapor pressure: | Not determined. |
| · Density: | |
| 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**
Toxic fumes may be released if heated above the decomposition point.
Reacts with alkali (lyes).
- **Conditions to avoid** Excessive heat.
- **Incompatible materials**
Metals.
Alkalis.
- **Hazardous decomposition products**
Under fire conditions only:
Possible in traces.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:**
Causes mild skin irritation.
Based on available data, the classification criteria are not met.
- **On the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

(Cont'd. on page 6)

Safety Data Sheet

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

Revision: February 14, 2020

Trade name: Ferrous Ammonium Sulfate Solution, 0.1M

(Cont'd. of page 5)

· **NTP (National Toxicology Program):**

7664-93-9 | Sulfuric acid

K

· **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 mild skin irritation.
- **Repeated dose toxicity:** No relevant information available.
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **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**

- **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 undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Other adverse effects** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Dilute concentrate with water and neutralize afterwards with suitable material (lime or chalk). The formed salts are inert and pose little hazard.

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.

· **Uncleaned packagings**

- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

(Cont'd. on page 7)

Safety Data Sheet

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

Revision: February 14, 2020

Trade name: Ferrous Ammonium Sulfate Solution, 0.1M

(Cont'd. of page 6)

14 Transport information

- | | |
|--|-----------------|
| · UN-Number
· DOT, ADR/RID/ADN, IMDG, IATA | Not regulated. |
| · UN proper shipping name
· DOT, ADR/RID/ADN, IMDG, IATA | Not regulated. |
| · Transport hazard class(es)
· DOT, ADR/RID/ADN, IMDG, IATA
· Class | Not regulated. |
| · Packing group
· DOT, ADR/RID/ADN, 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. |

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):**
- None of the ingredients are listed.
- **TSCA (Toxic Substances Control Act)**
- All ingredients are listed or exempt.
- **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.
- **EPA (Environmental Protection Agency):**

(Cont'd. on page 8)

Safety Data Sheet

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

Revision: February 14, 2020

Trade name: Ferrous Ammonium Sulfate Solution, 0.1M

(Cont'd. of page 7)

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

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

All ingredients listed on DSL or NDSL.

*

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

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

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

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

· **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., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

Website: www.chemtelinc.com