Ferrous Ammonium Sulfate, 0.1M

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : **Ferrous Ammonium Sulfate, 0.1M**

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: **S25854**

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

Fisher Science Education Emergency Telephone No.: 800-535-5053

SECTION 2 : Hazards identification

Classification of the substance or mixture:

Irritant
Skin irritation, category 2
Eye irritation, category 2A

Skin corrosion/irritation - Category 2
Eye Irritation 2

Signal word :Warning

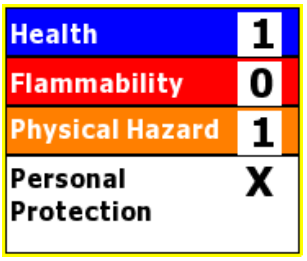
Hazard statements:
Causes skin irritation
Causes serious eye irritation
Precautionary statements:
If medical advice is needed, have product container or label at hand
Keep out of reach of children
Read label before use
Wear protective gloves/protective clothing/eye protection/face protection
Wash skin thoroughly after handling
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
Specific treatment (see supplemental first aid instructions on this label)
If eye irritation persists get medical advice/attention
Store in a well ventilated place. Keep container tightly closed
Store locked up

Other Non-GHS Classification:

Ferrous Ammonium Sulfate, 0.1M

WHMIS
NFPA/HMIS

NFPA SCALE (0-4)



HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:		
CAS 7664-93-9	Sulfuric Acid, ACS	0.18 %
CAS 7732-18-5	Deionized Water	95.9 %
CAS 7783-85-9	Ferrous Ammonium Sulfate,ACS	3.92 %
		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.Seek medical attention if irritation or coughing persists.

After skin contact: Wash affected area with soap and water. Immediately remove contaminated clothing and shoes.Rinse thoroughly with plenty of water for at least 15 minutes.Immediately seek medical attention.

After eye contact: Protect unexposed eye. Flush thoroughly with plenty of water for at least 15 minutes.Remove contact lenses while rinsing.Continue rinsing eyes during transport to hospital.

After swallowing: Rinse mouth thoroughly. Dilute with water or milk. Get medical assistance.

Most important symptoms and effects, both acute and delayed:

Inhalation may cause irritation to nose and upper respiratory tract, ulceration, coughing, chest tightness and shortness of breath. Higher concentrations cause tachypnoea, pulmonary oedema and suffocation . Pain, eye ulceration, conjunctival irritation, cataracts and glaucoma may occur following eye exposure.;None identified.

Indication of any immediate medical attention and special treatment needed:

Provide SDS to Physician.Physician should treat symptomatically.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: Use dry chemical, foam, carbon dioxide, or mist to extinguish surrounding fire.

For safety reasons unsuitable extinguishing agents: None identified.

Special hazards arising from the substance or mixture:

May be flammable when in contact with combustible or strong reducing agents. Can react with metals to release flammable hydrogen gas. May react explosively with combustible organic or readily oxidizable

materials.

Advice for firefighters:

Protective equipment: Use normal procedures. Use protective clothing. Use NIOSHapproved breathing equipment.

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:

Ensure adequate ventilation. Ensure that air-handling systems are operational.

Environmental precautions:

Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

Methods and material for containment and cleaning up:

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. Soak up with inert absorbent material and dispose of as hazardous waste. Cover spill with soda ash or calcium carbonate. Mix and add water to form slurry.Wear protective eyeware, gloves, and clothing. Refer to Section 8.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Prevent contact with skin, eyes, and clothing. Do not eat, drink, smoke, or use personal products when handling chemical substances.

Conditions for safe storage, including any incompatibilities:

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Keep out of direct sunlight and away from heat, water, and incompatible materials.Provide ventilation for containers. Keep container tightly sealed.

SECTION 8 : Exposure controls/personal protection

Control Parameters:	7783-85-9, Ferrous Ammonium Sulfate, OSHA PEL TWA (Total Dust) 15 mg/m3 7783-85-9, Ferrous Ammonium Sulfate, ACGIH TLV TWA (inhalable particles) 10 mg/m3 7664-93-9, Sulfuric Acid, OSHA PEL: 1mg/m3 7664-93-9, Sulfuric Acid, ACGIH TLV: 0.2 mg/m3
Appropriate Engineering controls:	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. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of handling.

Respiratory protection:	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.
Protection of skin:	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.
Eye protection:	Tightly fitting safety goggles.
General hygienic measures:	Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Before rewearing wash contaminated clothing.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	Clear, Colorless Liquid	**Explosion limit lower**: **Explosion limit upper**:	No information available No information available
Odor:	Not Determined.	**Vapor pressure**:	No information available
Odor threshold:	No information available	**Vapor density**:	No Determined.
pH-value:	Not determined	**Relative density**:	Not Available
Melting/Freezing point:	No information available	**Solubilities**:	Miscible
Boiling point/Boiling range:	No information available	**Partition coefficient (n-octanol/water)**:	Not Determined
Flash point (closed cup):	Not Applicable	**Auto/Self-ignition temperature**:	Not Determined
Evaporation rate:	No information available	**Decomposition temperature**:	Not Determined
Flammability (solid,gaseous):	No information available	**Viscosity**:	a. Kinematic:Not Determined b. Dynamic: Not Determined
Density: Approx.1 g/cm³ (8.345 lbs/gal) at 20 °C (68 °F) **Hydrochloric Acid:**MW is36.46			

SECTION 10 : Stability and reactivity

Reactivity: None under normal processing.May be flammable when in contact with combustible or strong reducing agents. Can react with metals to release flammable hydrogen gas. May react explosively with combustible organic or readily oxidizable materials.
Chemical stability: Stable under normal conditions of use and storage.
Possible hazardous reactions: None under normal processing.
Conditions to avoid: Incompatible materials.
Incompatible materials: Chlorates, carbides, organics, picrates, fulminates, alkalines, nitrates, metals, reducing agents, oxidizing agents, acetic acid.
Hazardous decomposition products: Thermal decomposition can produce toxic fumes and oxides of sulfur.

SECTION 11 : Toxicological information

Acute Toxicity:		
Oral:	Sulfuric Acid; 7664-93-9	LD50 Rat: 2140 mg/kg
Inhalation:	Sulfuric Acid; 7664-93-9	LD50 Rat: 510 mg/m3 - 2h
Inhalation:	Ferrous Ammonium Sulfate; 7783-85-9	LC50 - Rat - 2 h - 510 mg/m3
Oral:	Ferrous Ammonium Sulfate; 7783-85-9	LD50 - Rat - 2,140 mg/kg
Chronic Toxicity: No additional information.		
Corrosion Irritation:		
Ocular:		May cause irritation, redness, pain, tearing, and permanent damage.
Dermal:		Mildly corrosive. May cause skin burns and skin ulcerations.
Sensitization:		None identified.
Single Target Organ (STOT):		No additional information.
Numerical Measures:		No additional information.
Carcinogenicity:		No additional information.
Mutagenicity:		No additional information.
Reproductive Toxicity:		No additional information.

SECTION 12 : Ecological information

Ecotoxicity

Gambusia affinis (Mosquito fish): 7664-93-9 LC50 - 42 mg/l - 96 h

Daphnia magna (Water flea) : 7664-93-9; EC50 29 mg/l - 24 h

Persistence and degradability: No Information Available
Bioaccumulative potential: No Information Available
Mobility in soil: No Information Available
Other adverse effects: No Information Available

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Cover spill with sodium carbonate or soda ash-slaked mix 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.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.

SECTION 14 : Transport information

UN-Number

Not regulated

UN proper shipping name

Not regulated

Transport hazard class(es)
Packing group:Not regulated
Environmental hazard:
Transport in bulk:
Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

SARA Section 313 (Specific toxic chemical listings):

7664-93-9 Sulfuric Acid

RCRA (hazardous waste code):

None of the ingredients is listed

TSCA (Toxic Substances Control Act):

All ingredients are listed.

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

7664-93-9 Sulfuric Acid 1000 lbs
7783-85-9 Ferrous Ammonium Sulfate 1000 lbs

Proposition 65 (California):

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

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

None of the ingredients is 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.

GHS Full Text Phrases:

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)

Effective date : 01.08.2015
Last updated : 03.19.2015