

# Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.04.2014

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## Cupric Sulfate, Anhydrous

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

**Product name:** Cupric Sulfate, Anhydrous

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** S25285A

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc  
9 Barnhart Drive, Hanover, PA 17331  
(717) 632-1291

**Supplier Details:**

Fisher Science Education  
6771 Silver Crest Road, Nazareth, PA 18064  
(724)517-1954

**Emergency telephone number:**

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

### 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



**Environmentally Damaging**

Acute hazards to the aquatic environment, category 1  
Chronic hazards to the aquatic environment, category 1

Acute Toxicity 4 (oral).  
Skin Irritation 2.  
Eye Irritation 2.  
Aquatic Acute Toxicity 1.  
Aquatic Chronic Toxicity 1.

**Signal word:** Warning

**Hazard statements:**

Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.  
Very toxic to aquatic life.  
Very toxic to aquatic life with long lasting effects.

**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.

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Wear protective gloves/protective clothing/eye protection/face protection.

Avoid release to the environment.

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

Rinse mouth.

Specific treatment (see ... on this label).

Take off contaminated clothing and wash before reuse.

Collect spillage.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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.

If skin irritation or a rash occurs: Get medical advice/attention.

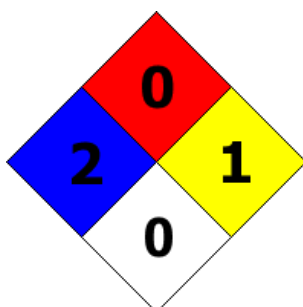
If eye irritation persists get medical advice/attention.

### Other Non-GHS Classification:

#### WHMIS



#### NFPA/HMIS



NFPA SCALE (0-4)

Health	2
Flammability	0
Physical Hazard	1
Personal Protection	X

HMIS RATINGS (0-4)

### SECTION 3: Composition/information on ingredients

Ingredients:		
CAS 7758-98-7	Cupric Sulfate, Anhydrous	100 %
Percentages are by weight		

### SECTION 4: First aid measures

#### Description of first aid measures

##### After inhalation:

Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

##### After skin contact:

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation persists or if concerned.

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### 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 or milk. Seek immediate medical attention or advice.

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

Irritation. Nausea. Headache. Shortness of breath. Harmful if swallowed; causes digestive and respiratory tract irritation with possible burns. Causes eye and skin irritation and possible burns. Chronic copper poisoning in man is recognized in the form of Wilson's disease.

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

Individuals with Wilson's disease are more susceptible to chronic copper poisoning. The use of d-Penicillamine as a chelating agent should be determined by qualified medical personnel. If seeking medical attention, provide SDS document to physician.

## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing agents:

If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

**Unsuitable extinguishing agents:** None

### Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors.

### Advice for firefighters:

#### Protective equipment:

Wear protective equipment. Wear protective equipment Use respiratory protective device against the effects of fumes/dust/aerosol Keep unprotected persons away Ensure adequate ventilation Keep away from ignition sources Protect from heat.

#### Additional information (precautions):

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Avoid contact with skin and eyes, and clothing. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

### Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13. Severe Marine Pollutant.

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

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Collect solids in powder form using a vacuum or by carefully sweeping so as not to generate dust. Have adequate ventilation during clean up. Clean up spills immediately.

**Reference to other sections:** None

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### SECTION 7: Handling and storage

#### Precautions for safe handling:

Wash thoroughly after handling. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Avoid generation of dust or fine particulate. Use only in well ventilated area. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Do not ingest or inhale. Handle under an inert atmosphere.

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

Store in a tightly closed container. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly sealed. Store protected from air. Store in a cool, dry, well-ventilated area away from incompatible substances. Do not expose to air. Store protected from moisture. Store under an inert atmosphere. Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs.

### SECTION 8: Exposure controls/personal protection



#### Control Parameters:

7758-98-7, OSHA PEL: TWA (as Cu), 1 mg/m<sup>3</sup>.  
7758-98-7, ACGIH TLV: TWA (as Cu), 1 mg/m<sup>3</sup>.  
7758-98-7, NIOSH REL: TWA (as Cu), 1 mg/m<sup>3</sup>.

**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 or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

**Respiratory protection:** Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable. Normal ventilation is adequate.

**Protection of skin:** The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Eye protection:** Safety glasses with side shields or goggles.

**General hygienic measures:** The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

### SECTION 9: Physical and chemical properties

<b>Appearance (physical state, color):</b>	Gray powder	<b>Explosion limit lower:</b>	Not determined
		<b>Explosion limit upper:</b>	Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined

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<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	200 C	<b>Solubilities:</b>	Soluble in water.
<b>Boiling point/Boiling range:</b>	Not determined	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not applicable	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not applicable
<b>Density at 20°C:</b>	Not determined <b>Specific Gravity:</b> 3.6 <b>Additional property:</b> Hygroscopic.		

### SECTION 10: Stability and reactivity

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

High temperatures, dust generation, exposure to moist air or water. Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Aqueous solution of copper(2+) sulfate is an acid. Incompatible with strong bases, hydroxylamine, magnesium. Strong acids. Strong bases.

**Hazardous decomposition products:**

Oxides of sulfur. Copper fumes. Carbon oxides (CO, CO<sub>2</sub>).

### SECTION 11: Toxicological information

**Acute Toxicity:**

**Oral:**

300 mg/kg LD50 oral-rat (7758-98-7)

**Chronic Toxicity:**

**Oral:**

Wilson's disease Chronic copper poisoning in man is recognized as

**Corrosion Irritation:**

**Dermal:**

May cause itching eczema

Causes skin irritation and possible burns

May cause ulceration and perforation of the nasal septum if inhaled in excessive quantities

**Ocular:**

Exposure to particulates or solution may cause conjunctivitis, ulceration, and corneal abnormalities

**Sensitization:**

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May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

### Numerical Measures:

ATE (oral): Not calculated.

### Carcinogenicity:

IARC: Not listed

NTP: Not listed

**Mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

## SECTION 12: Ecological information

### Ecotoxicity:

Fish: NOEC (30d) *P. fluviatilis* (7758-98-7): 39 µg/l

Fish: LC50 (96h) Unspecified Goldfish (7758-98-7): 0.1-2.5 mg/L

Fish: LC50 (96h) Unspecified Harlequin fish (7758-98-7): 0.1-2.5 mg/L

Fish: LC50 (96h) Rainbow trout (7758-98-7): 0.1-2.5 mg/L

Crustacea: EC50 (48h) Unspecified flea *Daphnia* (7758-98-7): 0.24 mg/L

Fish: LC50 (96 hr) *C. caprio* (7758-98-7 copper sulphate) : 810 µg/l

Crustacea - LC50 values (48 h) for *D. magna* (7758-98-7): 33.8 µg/L

Algae: NOEC (72h) *Phaeodactylum tricornutum* (7758-98-7): 5.7 µg/L

Crustacea: NOEC (27d) *D. polymorpha* (7758-98-7): 21 µg Cu/l

**Persistence and degradability:** No additional information.

### Bioaccumulative potential:

Copper is accumulated by plants and animals, but it does not appear to biomagnify from plants to animals. This lack of biomagnification appears common with heavy metals. In air, copper aerosols (in general) have a residence time of 2 to 10 days in an unpolluted atmosphere and 0.1 to > 4 days in polluted, urban areas.

### Mobility in soil:

This soluble substance is likely to be mobile in soil.

**Other adverse effects:** No additional information.

## SECTION 13: Disposal considerations

### Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

## SECTION 14: Transport information

**US DOT**

**UN Number:**

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ADR, ADN, DOT, IMDG, IATA

3288

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Toxic solid, Inorganic, N.O.S., (Cupric Sulfate).

**Hazard Class:** 6

**Packing Group:** III.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Toxic solid, Inorganic, N.O.S., (Cupric Sulfate).

**Hazard Class:** 6

**Packing Group:** III.

**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, Chronic

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

7758-98-7 Cupric sulfate, Copper compounds.

**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):**

7758-98-7 Cupric sulfate (Copper compounds) 10 lbs.

#### 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):**

All ingredients are listed.

**Canadian NPRI Ingredient Disclosure list (limit 0.1%):**

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None of the ingredients are listed.

#### Canadian NPRI Ingredient Disclosure list (limit 1%):

7758-98-7 Copper (II) sulfate.

#### 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:** 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).

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