



Fisher Science Education
6771 Silver Crest Road, Nazareth, PA 18064 (800) 955-1177
Emergency Number: (800) 255-3924

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: S25287A, S25288
Product Identity: Copper (II) Sulfate, Pentahydrate, Lab Grade

Chemical Family: Not Applicable
Synonyms: Cupric Sulfate
Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291
Emergency Contact Number (24hr): Chemtel (800) 255-3924

Issue Date: 07/11/12
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Section 2 – Hazard Identification

Emergency Overview: Warning. Harmful if swallowed. Causes digestive and respiratory tract irritation with possible burns. Causes eye and skin irritation and possible burns. Hygroscopic. Mutagen. Possible sensitizer.

Appearance: Blue crystal, large **Odor:** Odorless

Target Organs: Kidneys, liver, blood.

Potential Health Effects/ Routes of Exposure:

Eyes: Exposure to particulates or solution may cause conjunctivitis, ulceration, and corneal abnormalities. Causes eye irritation and possible burns.

Skin: Causes skin irritation and possible burns. May cause itching eczema.

Ingestion: Harmful if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns.

Inhalation: May cause ulceration and perforation of the nasal septum if inhaled in excessive quantities. Causes respiratory tract irritation with possible burns.

Chronic Effect / Carcinogenicity: May cause liver and kidney damage. May cause anemia and other blood cell abnormalities. Laboratory experiments have resulted in mutagenic effects. May cause allergic skin reaction in some individuals. Chronic copper poisoning in man is recognized in the form of Wilson's disease.

Aggravated Medical Conditions: Wilson's disease

These chemicals are not considered hazardous by OSHA.

See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 – Composition, Information on Ingredients

Copper (II) Sulfate, pentahydrate, CAS# 7758-99-8

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.

Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.

Ingestion: DO NOT induce vomiting. Dilute with water or milk. Get medical assistance.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Notes to Physician: Individuals with Wilson's disease are more susceptible to chronic copper poisoning.

Antidote: The use of d-Penicillamine as a chelating agent should be determined by qualified medical personnel.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.

Explosion Limits Upper No data available **Lower** No data available

Extinguishing Media: Use means suitable to extinguishing surrounding fire.

Unsuitable Extinguishing Media: No information available

Fire & Explosion Hazards: Not considered to be a fire or explosion hazard.

Fire Fighting Instructions / Equipment: Use normal procedures. Use protective clothing. Use NIOSH-approved breathing equipment.

Hazardous Combustion Products: No information Available

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical: No information available

NFPA Rating: (estimated) Health: 2; Flammable: 0; Reactivity: 1

Section 6 – Accidental Release Measures

Personal Precautions: Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

Environmental Precautions: Not relevant considering the small amounts used.

Methods for Containment and Clean: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 – Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. 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. Store protected from air.

Storage: Store in a tightly closed container. 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.

Section 8 – Exposure Controls, Personal Protection

Copper (II) Sulfate, pentahydrate, CAS# 7758-99-8, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Local/general exhaust is recommended. Ensure eyewash and safety showers are available.

Personal Protection Equipment: Skin Protection: Chemical resistant gloves.

Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** Normal ventilation is adequate

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Blue Crystals, large

Odor: Odorless

Boiling Point: 150 C

Melting Point: 110 C

Vapor Density: No Information Available

Evaporation Rate: No Information Available

pH: No Information Available

Flammability: No Information Available

% Volatility: No Information Available

Specific Gravity: 2.2840g/cm³

Vapor Pressure: 7.3 mm Hg @ 25 C

Flash Point: Not Applicable

Coefficient of water/oil distribution: Not Available

Odor Threshold: Not Available

Decomposition Temperature: No Information Available

Solubility: Soluble
available

Partition Coefficient n-octanol/water: No data

Relative Density: No Information Available

Molecular Weight: 249.68

Section 10 – Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Air sensitive.

Incompatible Materials: Moisture, air, steel, finely powdered metals, hydroxylamine, magnesium, hydrazine, nitromethane.

Conditions to Avoid: High temperatures, incompatible materials, dust generation, exposure to air, exposure to moist air or water.

Hazardous Decomposition Products: Oxides of sulfur, irritating and toxic fumes and gases, oxides of copper, copper fumes.

Hazardous Polymerization: Does not occur

Hazardous Reactions: None under normal processing.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2

LD50 orl-rat 300 mg/kg; LC50 inhalation-rat: NA

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity No Information Available

Sensitization No information available.

Mutagenic Effects DNA Inhibition: Human, Lymphocyte = 76 umol/L.; Unscheduled DNA Synthesis: Rat, Liver = 31 umol/L.; Cytogenetic Analysis: Rat, Ascites tumor = 300 mg/kg.; Micronucleus Test: Intraperitoneal, mouse = 5 mg/kg.

Reproductive Effects No information available.

Developmental Effects (Immediate/Delayed) No information available.

Teratogenicity No information available.

Other Adverse Effects No Information Available.

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Fish: Rainbow trout: LC50 = 0.1-2.5 mg/L; 96 Hr; Unspecified Harlequin fish: LC50 = 0.1-2.5 mg/L; 96 Hr; Unspecified Goldfish: LC50 = 0.1-2.5 mg/L; 96 Hr; Unspecified flea Daphnia: EC50 = 0.24 mg/L; 48 Hr

Persistence and Degradability: No Information Available **Mobility:** No Information Available

Bioaccumulation/ Accumulation: No Information Available

Environmental: 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.

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Section 14 – Transport Information

UN3288, Toxic solid, Inorganic, N.O.S., (Cupric Sulfate), 6.1, III

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are not considered hazardous by OSHA.

Canada DSL: These chemicals are listed on the Canada DSL list.

TSCA: The components of this solution are listed on the TSCA Inventory

SARA Title III Section 313: Not Applicable

RCRA Status: Not Applicable

CERCLA Reportable Quantity: CAS# 7758-99-8: 10 lb

WHIMS: D1B. Class D - Poisonous and Infectious Material, D2B. Class D - Poisonous and Infectious.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.