



SAFETY DATA SHEET

**PhytoTechnology
Laboratories®**

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Cupric Sulfate, Pentahydrate, ACS Reagent

PRODUCT NUMBER: C375

COMPANY INFO: *PhytoTechnology Laboratories®*
PO Box 12205, Shawnee, KS 66282-2205
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EMERGENCY PHONE NUMBER 1-800-535-5053 - US Only
(INFOTRAC): 1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by *PhytoTechnology Laboratories®* are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

GHS Classification:

- H301 – Acute toxicity, Oral (Category 3)
- H315 – Skin irritation (Category 2)
- H319 – Eye Irritation (Category 2A)
- H400 – Acute aquatic toxicity (Category 1)
- H410 – Chronic aquatic toxicity (Category 1)

GHS Label elements, including hazard and precautionary statements:

Pictogram



Signal Word: **Warning**

Hazard Statements:

- H301 – Toxic if swallowed.
- H315 – Causes skin irritation.
- H319 – Causes serious eye irritation.
- H410 – Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

- P273 – Avoid release to the environment.
- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P302 + P352 + IF ON SKIN: Wash with plenty of soap and water
- P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazards not otherwise classified (HNOC) or not covered by GHS: - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Copper(II) Sulfate

CAS No: 7758-99-8

Formula: $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

Molecular Weight: 249.68 g/mol

EC No.: 231-847-6

Ingredient	CAS Number	Percent	Hazardous
Cupric Sulfate, Pentahydrate	7758-99-8	>99 %	NIOSH REL: 1 mg/m ³

4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical attention.
Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention.
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.
Skin Contact	Irritating. May cause reddening, itching or inflammation.	Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists.

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.

Special Protective Equipment and Precaution for Firefighters: In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.

Hazardous Combustion Products: No data available

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing dust, vapors, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Method of Containment and Cleanup: Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water. Do not let product enter drains.

7. HANDLING AND STORAGE

Precaution for Safe Handling: Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Provide adequate ventilation at places where dust is formed. Wash thoroughly after use.

Conditions for Safe Storage: Keep in a tightly closed container and store in a cool, dry, and well-ventilated area. Product is hygroscopic.

Recommended Storage Temperature: Room Temperature

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Permissible Exposure Limits (PELs): None

Threshold Limit Values (TLVs): None

Engineering Controls: Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE):

Eye/Face Protection: Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.

Skin Protection: Protective gloves

Body Protection: Lab coat

Respiratory Protection: A NIOSH/MSHA approved air purifying respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Blue to light grey crystals/powder

pH: No data available

Solubility: Soluble in water

Melting Range: No data available

Vapor Density: No data available

Vapor Pressure: 9.7 hPa (7.3 mmHg) at 25 °C (77°F)

Specific Gravity: No data available ³

Odor: Odorless

Odor Threshold: No data available

Viscosity: No data available

Relative Density: No data available

Evaporation Rate: No data available

Initial Boiling Point and Boiling Range: No data available

Flammability (solid, gas): No data available

Partition coefficient: No data available
n-octanol/water):

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

Flash Point (Closed Cup): No data available

Flammable Limits: Upper (%) – No data available Lower (%) – No data available

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical Stability: Stable under normal conditions of use

Possibility of Hazard Reactions: No data available

Conditions to Avoid: No data available

Incompatibles Materials: Reducing agents, hydroxylamine, finely powdered metals

Hazardous Decomposition Products: Copper oxides, Sulfur oxides

11. TOXICOLOGICAL INFORMATION

Toxicity: LD₅₀ (Oral-Rat)(mg/Kg) 482

LD₅₀ (IPR-Rat)(mg/Kg) 20
LD₅₀ (Dermal-Rabbit)(mg/Kg) No data available

Carcinogenicity: NTP: No
IARC: No
OSHA Reg: No

Reproductive Toxicity: No data available

Specific Target Organ Toxicity: Single Exposure: No data available
Repeated Exposure: No data available

Target Organs: No data available

Routes of Entry: Inhalation and ingestion

NIOSH/RTECS NO: GL8900000

The toxicological properties of this product have not been thoroughly investigated

12. ECOLOGICAL INFORMATION

Ecotoxicity: EC50 – water flea – 0.024 mg/L – 48 hrs.
Persistence and Degradability: No data available
Bioaccumulative Potential: No data available
Mobility in Soil: No data available
Other Adverse Effects: No data available

13. DISPOSAL CONSIDERATION

Disposal Procedure: Dispose in accordance with all applicable federal, state, and local environmental regulations.

14. TRANSPORT INFORMATION

Domestic (D.O.T.): Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper sulphate pentahydrate)
Hazard Class: Class: 9 Packing group: III
Reportable Quantity: 10 lbs
UN/NA: 3077
Labels: ENVIRONMENTALLY HAZARDOUS
Marine Pollutant: Yes

International:

IMDG: Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper sulphate pentahydrate)
Hazard Class: Class: 9 Packing group: III EMS No.: F-A, S-F
UN/NA: 3077
Labels: ENVIRONMENTALLY HAZARDOUS
Marine Pollutant: Yes

IATA: Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper sulphate pentahydrate)
Hazard Class: Class: 9 Packing group: III

UN/NA: 3077

15. REGULATORY INFORMATION

TSCA: No

SARA TITLE III:

Section 302 (EHS) Ingredients: No

Section 313 Ingredients: Yes

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: Acute Health Hazard, Chronic Health Hazard

Massachusetts Right to Know Components: Not subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components: Not subject to the Pennsylvania Right to Know Act.

New Jersey Right to Know Components: Not subject to the New Jersey Right to Know Act.

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

HMIS Rating:	Health Hazard	Flammability	Physical Hazard	Personal Protection
	2	0	0	B
NFPA Rating:	Health Hazard	Fire Hazard	Instability	Special Hazard
	2	0	0	

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