



**PhytoTechnology
Laboratories®**

SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Cupric Sulfate, Pentahydrate, USP
PRODUCT NUMBER: C628
COMPANY INFO: *PhytoTechnology Laboratories®*
PO Box 12205, Shawnee, KS 66282-2205
Phone: 1-888-749-8682 or 1-913-341-5343; Fax: 1-888-449-8682 or 1-913-341-5442
www.phytotechlab.com

EMERGENCY PHONE NUMBER: 1-800-535-5053 - US Only
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:



Signal Word: **Danger**

Hazard Statements:

- H301 – Toxic if swallowed.
- H315 – Causes skin irritation.
- H319 – Causes serious eye irritation.
- H335 – May cause respiratory irritation.
- H410 – Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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	≥ 98.5%	ACGIH TLV: 1 mg/m ³ (Cu)

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: May emit toxic fumes under fire conditions.

Toxic Gases Produced: Copper oxides, sulfur oxides

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

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

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 products enter drains.

7. HANDLING AND STORAGE

Precaution for Safe Handling: Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Wash thoroughly after use.

Conditions for Safe Storage: Keep in a tightly closed container and store in a cool, dry, and well-ventilated area. Air sensitive. Hygroscopic.

Incompatibilities: Reducing agents, alkalis, phosphates, hydroxylamine, finely powdered metals, steel

Recommended Storage Temperature: Room Temperature

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Permissible Exposure Limits (PELs): No data available

NIOSH Recommended Exposure Limits: 1.0 mg/m³

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: Appropriate respirator

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Transparent or blue crystalline granules or powder

pH: No data available

Solubility: Soluble in water

Melting Point: 110 °C (Dec)

Vapor Density: No data available

Vapor Pressure: 9.7 hPa (7.3 mmHg) at 25 °C (77 °F) No data available

Odor: Odorless

Odor Threshold: No data available

Viscosity: No data available

Relative Density: 2.284 g/cm³

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: Will not occur

Conditions to Avoid: Heat, air, moisture

Incompatibles Materials: Reducing agents, alkalis, phosphates, hydroxylamine, finely powdered metals, steel

Hazardous Decomposition Products: Copper oxides, sulfur oxides

11. TOXICOLOGICAL INFORMATION

Toxicity:	LD ₅₀ (Oral-Rat)(mg/Kg)	482
	LD ₅₀ (IPR-Mouse)(mg/Kg)	33
	LD ₅₀ (Dermal-Rat)(mg/Kg)	2000

Skin corrosion/irritation:	Irritating to skin	
Serious eye damage/eye irritation	Irritating to eyes.	
Respiratory or skin sensitization:	Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.	
Carcinogenicity:	NTP:	No
	IARC:	No
	Z List:	No
	OSHA Reg:	No
Reproductive Toxicity:	No data available	
Symptoms Associated with Overexposure:	Irritation, cough, sore throat, abdominal pain, vomiting, anemia, kidney pains, liver impairment, weight loss	
Specific Target Organ Toxicity:	Single Exposure:	No data available
	Repeated Exposure:	No data available
Target Organs:	Liver, kidney, gastrointestinal system	
Medical Conditions Aggravated By Exposure:	Pre-existing skin conditions, impaired liver, kidney or pulmonary functions	
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:	Toxicity to daphnia – EC50 – Daphnia magna (Water flea) – 0.024 mg/L – 48 hr
Persistence and Degradability:	No data available
Bioaccumulative Potential:	No data available
Mobility in Soil:	No data available
Other Adverse Effects:	Very toxic to aquatic life

13. DISPOSAL CONSIDERATION

Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
EPA Hazardous Waste Number:	No data available

14. TRANSPORT INFORMATION

Domestic (D.O.T.):	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

International:

IMDG:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

IATA: Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)
 Hazard Class: N/A
 UN/NA: N/A
 Labels: N/A

15. REGULATORY INFORMATION

TSCA: No

SARA TITLE III:

Section 302 (EHS) Ingredients: No
 Section 313 Ingredients: CAS No.: 7758-99-8 Copper sulphate pentahydrate
 Section 304 (EHS/CERCLA) Ingredients: No
 Section 311/312 Hazard: Acute Health Hazard, Chronic Health Hazard

Massachusetts Right to Know Components: CAS No.: 7758-99-8 Copper sulphate pentahydrate

Pennsylvania Right to Know Components: CAS No.: 7758-99-8 Copper sulphate pentahydrate

New Jersey Right to Know Components: CAS No.: 7758-99-8 Copper sulphate pentahydrate

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	Chronic Health Hazard	Flammability	Physical Hazard
	2	*	0	0
NFPA Rating:	Health Hazard	Fire Hazard	Reactivity Hazard	Special Hazard
	2	0	0	

*Chronic Hazard: Chronic (long-term) health effects may result from repeated overexposure.

***PhytoTechnology Laboratories®* provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. The above information is intended to be used only as a guide to the appropriate precautionary handling of this material by a properly trained person. *PhytoTechnology Laboratories®* shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.**

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