

# **MATERIAL SAFETY DATA SHEET**

CUPRIC SULFATE, 5-HYDRATE  
CAROLINA BIOLOGICAL

Revised: 11/23/09  
Replaces: 11/23/09  
Printed: 08/03/10

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## **1. PRODUCT DESCRIPTION**

Product Name: Cupric Sulfate, 5-Hydrate  
Product Code(s): 85-6560, 85-6562, 85-6120, GEO385, GEO385A, GEO387  
Size: 125 g, 500 g  
Chemical Name: Copper II Sulfate, pentahydrate  
CAS Number: 7758-99-8  
Formula: CuSO<sub>4</sub> 5H<sub>2</sub>O  
Synonyms: Blue vitriol  
Distributor: Carolina Biological Supply Company  
2700 York Road  
Burlington, NC 27215

Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)  
Chemtrec (Transportation Spill Response 24 hours): 800-424-9300

## **2. COMPOSITION/INFORMATION ON INGREDIENTS**

Principal Hazardous Components: Cupric Sulfate (CAS# 7758-99-8) 100%  
TLV and PEL units: ACGIH-TLV 1 mg(Cu)/m<sup>3</sup> (TWA), as copper  
OSHA-PEL 1 mg(Cu)/m<sup>3</sup> (TWA), as copper

## **3. HAZARD IDENTIFICATION**

Emergency Overview:  
Potential Health Effects:  
Eyes: May cause irritation.  
Skin: May cause irritation.  
Ingestion: May cause gastrointestinal discomfort.  
Inhalation: May cause irritation to respiratory tract.

## **4. FIRST AID MEASURES**

Emergency and First Aid Procedures:  
Eyes - Flush with water for at least 15 minutes, raising and lowering eyelids occasionally. Get medical attention at once.  
Skin - Thoroughly wash exposed area for at least 15 minutes. Remove contaminated clothing. Launder contaminated clothing before reuse. Get medical attention at once.  
Ingestion - Do not induce vomiting. If swallowed, if conscious, give water immediately and get medical attention at once. Never give anything by mouth to an unconscious person.  
Inhalation - Remove to fresh air. Give oxygen if breathing is difficult; give artificial respiration if breathing has stopped. Keep person warm and quiet, and get medical attention at once.

## **5. FIREFIGHTING PROCEDURES**

Flash Point(Method Used): Not applicable  
NFPA Rating: Health: 2  
Fire: 0  
Reactivity: 0

Extinguisher Media:

Use media suitable to extinguish surrounding fire.  
Flammable Limits in Air % by Volume: Not applicable  
Autoignition Temperature: No information available.  
Special Firefighting Procedures:  
Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

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Unusual Fire and Explosion Hazards: Closed containers may explode if exposed to excessive heat.

### **6. SPILL OR LEAK PROCEDURES**

Steps to be Taken in Case Material is Released or Spilled:

Ventilate area of spill. Clean-up personnel should wear proper protective equipment. Avoid creating dust. Sweep or scoop up and containerize for disposal.  
self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: Decomposes at melting point.

### **7. SPECIAL PRECAUTIONS**

Precautions to be Taken in Handling or Storing: Store tightly closed in a cool, dry area. This chemical may be stored in any general chemical storage area. Avoid skin contact. Do not get in eyes.

Other Precautions: Wash thoroughly after handling. Do not take internally.

### **8. SPECIAL PROTECTION INFORMATION**

Respiratory Protection(Specify Type):

None needed under normal conditions of use with adequate ventilation. NIOSH approved equipment should be worn if PELs are exceeded.

Ventilation: Use general or local exhaust ventilation to meet TLV requirements.

Local Exhaust: Recommended

Mechanical(General): Recommended

Special: No

Other: No

Protective Gloves:

Rubber, neoprene, PVC, or equivalent.

Eye Protection:

Splash proof chemical safety goggles should be worn at all times.

Other Protective Clothing or Equipment:

Lab coat, eye wash, and safety shower.

### **9. PHYSICAL DATA**

Molecular Weight: 249.70

Melting Point: 560C decomposes

Boiling Point: N/A; loses 2 H<sub>2</sub>O at 30°C, loses 2 more H<sub>2</sub>O at 110°C, becomes anhydrous by 250°C

Vapor Pressure: No information available.

Vapor Density(Air=1): No information available.

Specific Gravity(H<sub>2</sub>O=1): 2.28

Percent Volatile by Volume: No information available.

Evaporation Rate(H<sub>2</sub>O=1): Not applicable

Solubility in Water: Very soluble

Appearance and Odor: Blue crystals or granules with no odor.

### **10. REACTIVITY DATA**

Stability: Stable

Conditions to Avoid: Heat

Incompatibility(Materials to Avoid): Strong reducing agents, strong oxidizing agents, magnesium

Hazardous Decomposition Products: Oxides of sulfur

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Hazardous Polymerization: Will not occur

## **11. TOXICITY DATA**

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Toxicity Data: Oral Rat LD50: 300 mg/kg

Effects of Overexposure:

Acute: See section 3

Chronic: Mutation data cited. Not listed as causing cancer by IARC, NTP, or OSHA.

Conditions Aggravated by Overexposure: Persons suffering from hepatolenticular degeneration (Wilson's disease) should avoid all exposure and seek medical treatment.

Target Organs: No information available.

Primary Route(s) of Entry: No information available.

## **12. ECOLOGICAL DATA**

EPA Waste Numbers: None

## **13. DISPOSAL INFORMATION**

Waste Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations.

Always contact a permitted waste disposer (TSD) to assure compliance.

## **14. TRANSPORT INFORMATION**

Not regulated by ground or air within the U.S. if package contains less than 10 lbs Cupric Sulfate. If more than the RQ of 10 lbs is packed in one package: RQ, Environmentally hazardous substances, solid, n.o.s. (Cupric Sulfate, Pentahydrate), 9, UN3077, III. Labels required: CLASS 9

By ocean: Environmentally hazardous substances, solid, n.o.s. (Cupric Sulfate), 9, UN3077, III. Labels required: CLASS 9. Marine Pollutant mark also required.

## **15. REGULATORY INFORMATION**

EPA TSCA Status: On TSCA Inventory

Hazard Category for SARA Section 311/312 Reporting: Acute Chronic

Product or Components	SARA EHS Sec. 302 TPQ	SARA Sec. 313 Chemicals		CERCLA Sec. 103 RQ lbs.	RCRA Sec. 261.33
		Name	Chemical List Category		
Cupric Sulfate	No	No	Copper Cmpd	10	No

## **16. ADDITIONAL INFORMATION**

The information provided in this Material Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the Material Safety Data Sheet. Any employer must carefully assess the applicability of any information contained herein in regards to the particular use to which the employer puts the material.

Glossary

ACGIH.....American Conference of Governmental Industrial Hygienists

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CAS Number..Chemical Abstracts Service Number  
CERCLA.....Comprehensive Environmental Response, Compensation, and  
Liability Act  
DOT.....U.S. Department of Transportation  
IARC.....International Agency of Research on Cancer  
mppcf.....million particles per cubic foot  
N/A.....Not Available  
NTP.....National Toxicology Program  
OSHA.....Occupational Safety and Health Administration  
PEL.....Permissible Exposure Limit  
ppm.....parts per million  
RCRA.....Resource Conservation and Recovery Act  
SARA.....Superfund Amendments and Reauthorization Act  
TLV.....Threshold Limit Value  
TSCA.....Toxic Substances Control Act