

Safety Data Sheet

Copper (II) Sulfate, 5-Hydrate

CAROLINA[®]
www.carolina.com

Section 1

Product Description

Product Name: Copper (II) Sulfate, 5-Hydrate
Recommended Use: Science education applications
Synonyms: Bluestone, Blue Vitriol, Calcanthite, Cupric Sulfate Pentahydrate, Sulfuric Acid, Copper (II) Salt, Pentahydrate, Roman Vitriol
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2

Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



Toxic if swallowed. Causes skin irritation. Causes serious eye irritation. Very toxic to aquatic life.

GHS Classification:

Hazardous to the aquatic environment - Acute Category 1, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Acute Toxicity - Oral Category 3

Section 3

Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Copper (II) Sulfate, 5-Hydrate	7758-99-8	100

Section 4

First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Ingestion: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Section 5

Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: No data available
Hazardous Combustion Products: No data available

Section 6

Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits.

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Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Collect spillage.

Section 7

Handling and Storage

Handling: Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment. Refer to special instructions/safety data sheet. Do not breathe dust.

Storage: Store locked up. Keep container tightly closed in a cool, well-ventilated place.

Storage Code: Green - general chemical storage

Section 8

Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>		<u>OSHA PEL</u>	
	<u>(TWA)</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>(STEL)</u>
Copper (II) Sulfate, 5-Hydrate	1 mg/m ³ TWA (dust and mist, as Cu)	N/A	N/A	N/A

Control Parameters

Engineering Measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. NIOSH approved air purifying respirator with dust/mist filter.

Respirator Type(s): NIOSH approved air purifying respirator with dust/mist filter.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: No information available

Section 9

Physical Data

Formula: CuSO ₄ * 5H ₂ O	Vapor Pressure: No data available
Molecular Weight: 249.68	Evaporation Rate (BuAc=1): No data available
Appearance: Blue Crystalline Solid	Vapor Density (Air=1): No data available
Odor: None	Specific Gravity: 2.28 at 15.6 °C
Odor Threshold: No data available	Solubility in Water: Soluble
pH: 4.0 (0.2 molar aq soln)	Log Pow (calculated): No data available
Melting Point: No data available	Autoignition Temperature: No data available
Boiling Point: No data available	Decomposition Temperature: 110 °C
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: No data available	Percent Volatile by Volume: No data available

Section 10

Reactivity Data

Reactivity: Not generally reactive under normal conditions.

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: None known.

Incompatible Materials: Hydroxylamine, Hypobromite, Strong reducing agents, Magnesium

Hazardous Decomposition Products: No data available

Hazardous Polymerization: Will not occur

Section 11

Toxicity Data

Routes of Entry: Inhalation, ingestion, eye or skin contact.

Symptoms (Acute): Vomiting, Nausea, Hypotension, Diarrhea, Hepatitis

Delayed Effects: Hepatolenticular Degeneration (Wilson's Disease)

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Acute Toxicity:**Chemical Name**

Copper (II) Sulfate, 5-Hydrate

CAS Number

7758-99-8

Oral LD50ORAL LD50 Rat
300 mg/kg**Dermal LD50**DERMAL LD50
Rat > 2 g/kg**Inhalation LC50**

Not applicable

Carcinogenicity:**Chemical Name**

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CAS Number

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IARC

Not listed

NTP

Not listed

OSHA

Not listed

Chronic Effects:**Mutagenicity:**

No evidence of a mutagenic effect.

Teratogenicity:

No evidence of a teratogenic effect (birth defect).

Sensitization:

No evidence of a sensitization effect.

Reproductive:

No evidence of negative reproductive effects.

Target Organ Effects:**Acute:**

Kidneys, Liver, Gastrointestinal tract

Chronic:

Kidneys, Liver, Eyes

Section 12

Ecological Data

Overview:

Severe ecological hazard. This product may be toxic to plants and/or wildlife.

Mobility:

This material is expected to have high mobility in soil. It absorbs weakly to most soil types.

Persistence:

Dissolved into water, Adsorbs to soil., Chemically Transformed

Bioaccumulation:

Bioconcentration is not expected to occur.

Degradability:

No data

Other Adverse Effects:

No data

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CAS Number

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Eco Toxicity

96 HR LC50 PIMEPHALES PROMELAS 0.6752 MG/L [STATIC]

Section 13

Disposal Information

Disposal Methods:

Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Waste Disposal Code(s):

Not Determined

Section 14

Transport Information

Ground - DOT Proper Shipping Name:

Not regulated for ground transport by US DOT.

Air - IATA Proper Shipping Name:

UN3077

Environmentally Hazardous Substance, Solid, N.O.S.
(Cupric Sulfate, Pentahydrate)

Class 9

P.G. III

Section 15

Regulatory Information

TSCA Status:

All components in this product are on the TSCA Inventory.

Chemical Name**CAS
Number****§ 313 Name****§ 304 RQ****CERCLA RQ****§ 302 TPQ****CAA 112(2)
TQ**

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7758-99-8

No

No

No

No

No

Section 16

Additional Information

Revised: 01/29/2013**Replaces: None****Printed: 06-21-2013**

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.

Safety Data Sheet

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health