

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
1-800-227-1150
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;

WARNING



Harmful if swallowed. Very toxic to aquatic life.

GHS Classification:

Hazardous to the aquatic environment - Acute Category 1, Acute Toxicity - Oral Category 4

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: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Ingestion: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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

Safety Data Sheet

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. 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. Avoid release to the environment. Refer to special instructions/safety data sheet. Do not breathe dust.

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

Storage Code: Green - general chemical storage

Section 8 Protection Information

| Chemical Name | ACGIH | | OSHA PEL | |
|--------------------------------|--|--------|----------|--------|
| | (TWA) | (STEL) | (TWA) | (STEL) |
| 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

Safety Data Sheet

Section 11 Toxicity Data

Symptoms (Acute): No data available
Delayed Effects: No data available

Acute Toxicity:

| Chemical Name | CAS Number | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------------------|------------|------------------------------|---------------------------------|-----------------|
| Copper (II) Sulfate, 5-Hydrate | 7758-99-8 | Oral LD50 Rat = 300 mg/kg | Dermal LD50 Rat > 2000 mg/kg | Not determined |

Carcinogenicity:

| Chemical Name | CAS Number | IARC | NTP | OSHA |
|-------------------|------------|------------|------------|------------|
| No data available | 7758-99-8 | Not listed | Not listed | 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: No data available
Chronic: No data available

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 only slight mobility in soil. It absorbs strongly to most soil types.
Persistence: Dissolved into water, Adsorbs to soil., Chemically Transformed
Bioaccumulation: Bioconcentration is expected to occur.
Degradability: No data
Other Adverse Effects: No data

| Chemical Name | CAS Number | Eco Toxicity |
|--------------------------------|------------|---|
| Copper (II) Sulfate, 5-Hydrate | 7758-99-8 | 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: | Air - IATA Proper Shipping Name: |
|---|---|
| UN3077, Environmentally Hazardous Substance, Solid, N.O.S.(Cupric Sulfate, Pentahydrate), Class 9, PG III | UN3077, Environmentally Hazardous Substance, Solid, N.O.S.(Cupric Sulfate, Pentahydrate), Class 9, PG 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 |
|--------------------------------|------------|------------|----------|-----------|-----------|---------------|
| Copper (II) Sulfate, 5-hydrate | 7758-99-8 | No | No | No | No | No |

Section 16 Additional Information

Revised: 10/13/2015

Replaces: 09/09/2015

Printed: 10-29-2015

Safety Data Sheet

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.

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 |