# Safety Data Sheet

## Copper Sulfate, 20%

CAROLINA®
www.carolina.com

## Section 1 Product Description

**Product Name:** Copper Sulfate, 20%
**Recommended Use:** Science education applications
**Synonyms:** Blue Vitriol, 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

| | |
|---|---|
| **Acute Toxicity Dermal Contains** | 31.28 % of the mixture consists of ingredient(s) of unknown toxicity |
| **Acute Toxicity Inhalation Vapor Contains** | 31.28 % of the mixture consists of ingredient(s) of unknown toxicity |
| **Acute Toxicity Inhalation Dust/Mist Contains** | 31.28 % of the mixture consists of ingredient(s) of unknown toxicity |

## Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % |
|---|---|---|
| Water | 7732-18-5 | 68.72 |
| Copper (II) Sulfate, 5-Hydrate | 7758-99-8 | 31.28 |

## 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:** Fire or excessive heat may produce hazardous decomposition products.
**Hazardous Combustion Products:** Copper compounds, Sulfur containing gases

## 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.
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 no eat, drink or smoke when using this product. Avoid release to the environment. Avoid contact with skin and eyes.
**Storage:** Keep container tightly closed in a cool, well-ventilated place.
**Storage Code:** Green - general chemical storage

## Section 8 Protection Information

| | ACGIH | | OSHA PEL | |
|---|---|---|---|---|
| **Chemical Name** | **(TWA)** | **(STEL)** | **(TWA)** | **(STEL)** |
| Copper (II) Sulfate, 5-Hydrate | 1 mg/m3 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:** No respiratory protection required under normal conditions of use. Provide general room exhaust ventilation if symptoms of overexposure occur as explained Section 11. A respirator is not normally required.
**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:** See Section 3
**Molecular Weight:** No data available
**Appearance:** Colorless Blue Liquid
**Odor:** None
**Odor Threshold:** No data available
**pH:** No data available
**Melting Point:** No data available
**Boiling Point:** No data available
**Flash Point:** No data available
**Flammable Limits in Air:** No data available
**Vapor Pressure:** No data available
**Evaporation Rate (BuAc=1):** No data available
**Vapor Density (Air=1):** No data available
**Specific Gravity:** > 1
**Solubility in Water:** Soluble
**Log Pow (calculated):** No data available
**Autoignition Temperature:** No data available
**Decomposition Temperature:** No data available
**Viscosity:** 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:** Water-reactive materials, Hydroxylamine, Hypobromite, Strong reducing agents, Magnesium
**Hazardous Decomposition Products:** Sulfur containing gases, Copper compounds
**Hazardous Polymerization:** Will not occur

## 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 |
|---|---|---|---|---|
| Water | 7732-18-5 | Oral LD50 Rat 90000 mg/kg | | |
| Copper (II) Sulfate, 5-Hydrate | 7758-99-8 | Oral LD50 Rat = 300 mg/kg | Dermal LD50 Rat > 2000 mg/kg | |

**Carcinogenicity:**

| Chemical Name | CAS Number | IARC | NTP | OSHA |
|---|---|---|---|---|
| No data available | | 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:** Does not biodegrade readily.
**Other Adverse Effects:** No data

| Chemical Name | CAS Number | Eco Toxicity |
|---|---|---|
| Water | 7732-18-5 | No data available |
| 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:**
UN3082
Environmentally Hazardous Substances, Liquid, N.O.S. (Copper II Sulfate)
Class 9
P.G. III
R.Q 10 lbs (4.54 kg)

**Air - IATA Proper Shipping Name:**
UN3082
Environmentally Hazardous Substances, Liquid, N.O.S. (Copper II Sulfate)
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 |
|---|---|---|---|---|---|---|
| Copper (II) Sulfate, 5-hydrate | 7758-99-8 | No | No | No | No | No |

## Section 16 Additional Information

**Revised: 05/22/2015** **Replaces: 05/22/2015** **Printed: 05-28-2015**

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 |
| CAS | Chemical Abstract Service Number |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| DOT | U.S. Department of Transportation |
| IARC | International Agency for Research on Cancer |
| 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 |
| IDLH | Immediately dangerous to life and health |