



**VWR ANALYTICAL**

# SAFETY DATA SHEET

**Issuing Date** 20-Jul-2012

**Revision Date** 12-Feb-2015

**Revision Number** 2

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier**

**Product Name** COPPER (II) SULFATE PENTAHYDRATE

**Other means of identification**

**Product Code(s)** BDH9312-500G : BDH9312-2.5KG

**UN-No** 3077

**Synonyms** No information available.

**Recommended use of the chemical and restrictions on use**

**Recommended Use** For Laboratory Use Only. Not for Drug, Food, or Household use.

**Uses advised against** Not for Human or Animal Drug Use

**Details of the supplier of the safety data sheet**

**Company Address**

VWR International, LLC  
Radnor Corporate Center  
100 Matsonford Road  
Radnor, PA 19087-8660

**Company Phone Number** 610-386-1700

**E-mail Address** www.vwr.com

**Emergency Telephone Number**

**Emergency Telephone Number** CHEMTREC 800.424.9300  
CANUTEC 613.996.6666

## 2. HAZARDS IDENTIFICATION

**Classification**

**OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                         |            |
|-------------------------|------------|
| Acute Toxicity - Dermal | Category 4 |
|-------------------------|------------|

**Label elements**

**Emergency Overview**

**Warning**

**Hazard Statements**

H312 - Harmful in contact with skin



**Appearance** Blue

**Physical State** Crystals

**Odor** No information available

**Precautionary Statements**

P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P312 - Call a POISON CENTER or doctor if you feel unwell  
P322 - Specific measures (see supplemental first aid instructions on this label)  
P363 - Wash contaminated clothing before reuse  
P501 - Dispose of contents/ container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

- Very toxic to aquatic life with long lasting effects

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name                            | CAS-No    | EC No. | Weight % | Trade Secret   |
|--|-----------|--------|----------|----------------|
| Copper (II) sulfate pentahydrate (1:1:5) | 7758-99-8 | -      | 95-100   | Not applicable |

### 4. FIRST AID MEASURES

**First Aid Measures**

|                     |  |
|---------------------|--|
| <b>Eye Contact</b>  | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin Contact</b> | Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.                      |
| <b>Inhalation</b>   | Move to fresh air. If not breathing, give artificial respiration.  |
| <b>Ingestion</b>    | Never give anything by mouth to an unconscious person. Rinse mouth.  |

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms/Effects** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** No information available.

**Specific Hazards Arising from the Chemical**

No information available.

**Hazardous Combustion Products** Sulfur oxides.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Ensure adequate ventilation, especially in confined areas.

**Environmental Precautions**

**Environmental Precautions** See Section 12 for additional Ecological information.

**Methods and material for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

## 7. HANDLING AND STORAGE

**Precautions for Safe Handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. Heat Sensitive. Moisture sensitive.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Protect from moisture.

**Incompatible Products** Finely powdered metals. Corrodes steel. Heat. moisture.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

| Chemical Name  | ACGIH TLV                | OSHA PEL | NIOSH IDLH  |
|--|--------------------------|----------|---|
| Copper (II) sulfate pentahydrate<br>(1:1:5)<br>7758-99-8 | TWA: 1 mg/m <sup>3</sup> | -        | IDLH: 100 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup> |

Appropriate engineering controls

Engineering Measures                      Showers  
   Eyewash stations  
   Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection                      Tightly fitting safety goggles.

Skin and Body Protection                Wear protective gloves/clothing.

Respiratory Protection                    If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures                         Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

|                |                          |                |                          |
|----------------|--------------------------|----------------|--------------------------|
| Physical State | Crystals                 | Odor           | No information available |
| Appearance     | Blue                     | Odor Threshold | No information available |
| Color          | No information available |                |                          |

| <u>Property</u>              | <u>Values</u>             | <u>Remarks • Method</u> |
|------------------------------|---------------------------|-------------------------|
| pH                           | No information available. |                         |
| Melting point/freezing point |                           |                         |
| Boiling Point/Range          | >150 °C                   |                         |
| Flash Point (High in °C)     | No information available. |                         |
| Evaporation Rate             | No information available  |                         |
| Flammability (solid, gas)    | No information available  |                         |
| Flammability Limit in Air    |                           |                         |
| Upper flammability limit:    | No information available. |                         |
| Lower flammability limit:    | No information available. |                         |
| Vapor pressure               | No information available. |                         |
| Vapor Density                | No information available. |                         |
| Specific Gravity             | 2.28                      |                         |
| Water Solubility             | Very soluble in water     |                         |
| Solubility in other solvents | No information available. |                         |
| Partition coefficient        | No information available  |                         |
| Autoignition Temperature     |                           |                         |
| Decomposition Temperature    | No information available  |                         |
| Kinematic viscosity          | No information available  |                         |
| Dynamic viscosity            | No information available. |                         |
| Explosive Properties         | No information available  |                         |
| Oxidizing Properties         | No information available  |                         |

Other Information

|                  |                           |
|------------------|---------------------------|
| Softening Point  | No information available. |
| Molecular Weight | No information available  |
| VOC Content      | No information available. |
| Density          | No information available  |
| Bulk Density     | No information available  |

**10. STABILITY AND REACTIVITY**

**Reactivity**

No data available

**Chemical Stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to Avoid**

Protect from moisture. Protect from heat.

**Incompatible Materials**

Finely powdered metals. Corrodes steel. Heat. moisture.

**Hazardous Decomposition Products**

Sulfur oxides.

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

**Product Information** Toxic if swallowed Irritating to eye, skin and respiratory system

**Inhalation** There is no data available for this product.

**Eye Contact** There is no data available for this product.

**Skin Contact** There is no data available for this product.

**Ingestion** There is no data available for this product.

| Chemical Name  | LD50 Oral                               | LD50 Dermal      | LC50 Inhalation |
|--|---|------------------|-----------------|
| Copper (II) sulfate pentahydrate<br>(1:1:5)<br>7758-99-8 | = 960 mg/kg ( Rat ) = 300 mg/kg ( Rat ) | > 2 g/kg ( Rat ) | -               |

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** No information available.

| Chemical Name   | ACGIH | IARC | NTP | OSHA |
|---|-------|------|-----|------|
| Copper (II) sulfate pentahydrate (1:1:5)<br>7758-99-8 | -     | -    | -   | -    |

**Reproductive Toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organ Effects** Liver, Kidneys.

**Aspiration hazard** No information available.

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document .

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

| Chemical Name  | Toxicity to Algae | Toxicity to Fish  | Daphnia Magna (Water Flea)                            |
|--|-------------------|---|---|
| Copper (II) sulfate pentahydrate<br>(1:1:5)<br>7758-99-8 | -                 | 0.66 - 1.15: 96 h Lepomis<br>macrochirus mg/L LC50 semi-static<br>0.96 - 1.8: 96 h Lepomis<br>macrochirus mg/L LC50 static<br>0.1478 - 0.165: 96 h Oncorhynchus<br>mykiss mg/L LC50 flow-through<br>0.09 - 0.19: 96 h Oncorhynchus<br>mykiss mg/L LC50 static 0.6752: 96<br>h Pimephales promelas mg/L LC50<br>static | 0.147 - 0.227: 48 h Daphnia magna<br>mg/L EC50 Static |

### Persistence and Degradability

No information available.

### Bioaccumulation/Accumulation

No information available.

| Chemical Name   | Log Pow |
|---|---------|
| Copper (II) sulfate pentahydrate (1:1:5)<br>7758-99-8 | -       |

### Other Adverse Effects

No information available

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

#### **Waste Disposal Method**

Dispose of material in accordance with all federal, state, and local regulations.

#### **Contaminated Packaging**

Do not re-use empty containers.

| Chemical Name  | RCRA - Halogenated<br>Organic Compounds | RCRA - P Series Wastes | RCRA - F Series Wastes | RCRA - K Series Wastes |
|--|---|------------------------|------------------------|------------------------|
| Copper (II) sulfate<br>pentahydrate (1:1:5)<br>7758-99-8 | -                                       | -                      | -                      | -                      |

| Chemical Name   | California Hazardous Waste Status |
|---|-----------------------------------|
| Copper (II) sulfate pentahydrate (1:1:5)<br>7758-99-8 | Toxic                             |

## 14. TRANSPORT INFORMATION

### DOT

UN-No 3077  
Proper Shipping Name Environmentally Hazardous Substance, Solid, N.O.S., (Containing Cupric Sulfate)  
Hazard Class 9  
Packing Group III

### IATA

UN-No 3077  
Proper Shipping Name Environmentally Hazardous Substance, Solid, N.O.S., (Containing Cupric Sulfate)  
Hazard Class 9

Packing Group

III

## 15. REGULATORY INFORMATION

### International Inventories

|               |                 |
|---------------|-----------------|
| TSCA          | Complies        |
| DSL/NDSL      | Does not comply |
| EINECS/ELINCS | Does not Comply |
| ENCS          | Does not Comply |
| IECSC         | Complies        |
| KECL          | Does not Comply |
| PICCS         | Complies        |
| AICS          | Complies        |

### Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List  
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
ENCS - Japan Existing and New Chemical Substances  
IECSC - China Inventory of Existing Chemical Substances  
KECL - Korean Existing and Evaluated Chemical Substances  
PICCS - Philippines Inventory of Chemicals and Chemical Substances  
AICS - Australian Inventory of Chemical Substances

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Component  | SARA 313 - Threshold Values % |
|--|-------------------------------|
| Copper (II) sulfate pentahydrate (1:1:5)<br>7758-99-8 ( 95-100 ) | 1.0                           |

#### SARA 311/312 Hazard Categories

|                                   |     |
|-----------------------------------|-----|
| Acute Health Hazard               | Yes |
| Chronic Health Hazard             | No  |
| Fire Hazard                       | No  |
| Sudden Release of Pressure Hazard | No  |
| Reactive Hazard                   | No  |

#### Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical Name   | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---|-----------------------------|------------------------|---------------------------|----------------------------|
| Copper (II) sulfate pentahydrate (1:1:5)<br>7758-99-8 | -                           | X                      | -                         | -                          |

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

| Chemical Name | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ |
|---------------|--------------------------|------------------------------------|----|
|---------------|--------------------------|------------------------------------|----|

**Product Code(s)**BDH9312-500G : BDH9312-2.5KG -  
**COPPER (II) SULFATE  
PENTAHYDRATE**

**Revision Date** 12-Feb-2015

|  |   |   |   |
|--|---|---|---|
| Copper (II) sulfate pentahydrate<br>(1:1:5)<br>7758-99-8 | - | - | - |
|--|---|---|---|

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

| Chemical Name  | California Prop. 65 |
|--|---------------------|
| Copper (II) sulfate pentahydrate (1:1:5) - 7758-99-8 | -                   |

**U.S. State Right-to-Know Regulations**

| Chemical Name  | New Jersey | Massachusetts | Pennsylvania |
|--|------------|---------------|--------------|
| Copper (II) sulfate pentahydrate<br>(1:1:5)<br>7758-99-8 | X          | X             | X            |

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**Canada**

**WHMIS Hazard Class**

D1B Toxic materials D2B Toxic materials



**16. OTHER INFORMATION**

**Issuing Date** 20-Jul-2012  
**Revision Date** 12-Feb-2015  
**Revision Note**  
No information available

**Disclaimer**

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.

**End of Safety Data Sheet**