

### SECTION 1: IDENTIFICATION

#### 1.1. Product Identifier

**Product Form:** Substance

**Product Name:** Copper (II) Sulfate Pentahydrate

**CAS-No.:** 7758-99-8

**1.2. Intended Use of the Product** No additional information available

#### 1.3. Name, Address, and Telephone of the Responsible Party

##### Manufacturer

Quality Science Labs, LLC  
P.O. Box 159, 37888 Highway 24  
Lake George, CO 80827  
Tel: 866.700.1884

[www.qualitysciencelabs.com](http://www.qualitysciencelabs.com)

#### 1.4. Emergency Telephone Number

**Emergency Number** : CHEMTREC 24 Hour Emergency: Phone Number (800) 424-9300

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the Substance or Mixture

Acute Tox. 4 (Oral) H302

Eye Dam. 1 H318

Aquatic Acute 1 H400

Aquatic Chronic 1 H410

Full text of hazard classes and H-statements : see section 16

#### 2.2. Label Elements

##### GHS-US Labeling

##### Hazard Pictograms (GHS-US)



##### Signal Word (GHS-US)

: Danger

##### Hazard Statements (GHS-US)

: H302 - Harmful if swallowed.  
H318 - Causes serious eye damage.  
H400 - Very toxic to aquatic life.  
H410 - Very toxic to aquatic life with long lasting effects.  
: P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, and eye protection.  
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 - Immediately call a poison center or doctor.  
P330 - Rinse mouth.  
P391 - Collect spillage.  
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

#### 2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

#### 2.4. Unknown Acute Toxicity (GHS-US)

No data available

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substance

Name : Copper (II) Sulfate Pentahydrate  
CAS-No. : 7758-99-8

# Copper (II) Sulfate Pentahydrate

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Name	Synonyms	Product Identifier	%	GHS US classification
Sulfuric acid, copper(2+) salt (1:1), pentahydrate	Copper(II) sulfate, pentahydrate (1:1:5) / Sulfuric acid, copper(2+) salt, pentahydrate / Copper sulphate pentahydrate / Copper sulphate, pentahydrate / Copper sulfate pentahydrate / Copper(II) sulfate, pentahydrate / Copper(II) sulfate pentahydrate / Calcanthite / Copper(II) sulfate pentahydrate (1:1:5) / Cupric sulphate pentahydrate / Copper(II) sulphate pentahydrate / Cupic sulfate / Copper sulfate / Cupric sulfate / Copper sulphate	(CAS-No.) 7758-99-8	100	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of First-aid Measures

**First-aid Measures General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**First-aid Measures After Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

**First-aid Measures After Skin Contact:** Immediately drench affected area with water for at least 15 minutes. Remove contaminated clothing. Obtain medical attention if irritation develops or persists.

**First-aid Measures After Eye Contact:** Immediately rinse with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

**First-aid Measures After Ingestion:** Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

### 4.2. Most Important Symptoms and Effects Both Acute and Delayed

**Symptoms/Injuries:** Harmful if swallowed. Causes serious eye damage.

**Symptoms/Injuries After Inhalation:** Prolonged exposure may cause irritation.

**Symptoms/Injuries After Skin Contact:** Prolonged exposure may cause skin irritation.

**Symptoms/Injuries After Eye Contact:** Causes permanent damage to the cornea, iris, or conjunctiva.

**Symptoms/Injuries After Ingestion:** This material is harmful orally and can cause adverse health effects or death in significant amounts.

**Chronic Symptoms:** None known.

### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Water spray, fog, carbon dioxide (CO<sub>2</sub>), alcohol-resistant foam, or dry chemical.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. Use of heavy stream of water may spread fire.

### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not considered flammable but may burn at high temperatures.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

### 5.3. Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Sulfur trioxide. Copper oxides.

**Other Information:** Do not allow run-off from fire fighting to enter drains or water courses.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Do not get in eyes, on skin, or on clothing. Do not breathe dust.

#### 6.1.1. For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protective equipment (PPE).

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**Emergency Procedures:** Evacuate unnecessary personnel.

## 6.1.2. For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

## 6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

## 6.3. Methods and Materials for Containment and Cleaning Up

**For Containment:** Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.

**Methods for Cleaning Up:** Recover the product by vacuuming, shoveling or sweeping. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Clean up spills immediately and dispose of waste safely.

## 6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

**Precautions for Safe Handling:** Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid breathing dust. Handle empty containers with care because they may still present a hazard. Do not get in eyes, on skin, or on clothing.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations. Efflorescent. Protect from air.

**Storage Conditions:** Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

**Incompatible Materials:** Finely powdered metals. Will corrode steel.

### 7.3. Specific End Use(s) No additional information available

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

### 8.2. Exposure Controls

#### Appropriate Engineering Controls

: Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

#### Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles.



#### Materials for Protective Clothing

: Chemically resistant materials and fabrics.

#### Hand Protection

: Wear protective gloves.

#### Eye and Face Protection

: Chemical safety goggles.

#### Skin and Body Protection

: Wear suitable protective clothing.

#### Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

#### Other Information

: When using, do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties

#### Physical State

: Solid

#### Appearance

: Blue, crystalline powder, granules or larger crystals.

#### Odor

: Odorless

#### Odor Threshold

: No data available

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<b>pH</b>	: No data available
<b>Evaporation Rate</b>	: No data available
<b>Melting Point</b>	: No data available
<b>Freezing Point</b>	: No data available
<b>Boiling Point</b>	: No data available
<b>Flash Point</b>	: No data available
<b>Auto-ignition Temperature</b>	: No data available
<b>Decomposition Temperature</b>	: No data available
<b>Flammability (solid, gas)</b>	: No data available
<b>Vapor Pressure</b>	: No data available
<b>Relative Vapor Density at 20°C</b>	: No data available
<b>Relative Density</b>	: No data available
<b>Specific Gravity</b>	: 2.28 g/ml
<b>Solubility</b>	: Water: Soluble Organic solvent: Methyl alcohol: Soluble Alcohol: Slightly soluble
<b>Partition Coefficient: N-Octanol/Water</b>	: No data available
<b>Viscosity</b>	: No data available

**9.2. Other Information** No additional information available

## SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Heat. Direct sunlight, extremely high or low temperatures, and incompatible materials.
- 10.5. Incompatible Materials:** Finely powdered metals. Will corrode steel.
- 10.6. Hazardous Decomposition Products:** None expected under normal conditions of use.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on Toxicological Effects

**Acute Toxicity (Oral):** Harmful if swallowed.

**Acute Toxicity (Dermal):** Not classified

**Acute Toxicity (Inhalation):** Not classified

Copper (II) Sulfate Pentahydrate (7758-99-8)	
ATE (Oral)	960.00 mg/kg body weight
Sulfuric acid, copper(2+) salt (1:1), pentahydrate (7758-99-8)	
LD50 Oral Rat	960 mg/kg
LD50 Dermal Rabbit	> 8 g/kg

**Skin Corrosion/Irritation:** Not classified

**Serious Eye Damage/Irritation:** Causes serious eye damage.

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** Prolonged exposure may cause irritation.

**Symptoms/Injuries After Skin Contact:** Prolonged exposure may cause skin irritation.

**Symptoms/Injuries After Eye Contact:** Causes permanent damage to the cornea, iris, or conjunctiva.

**Symptoms/Injuries After Ingestion:** This material is harmful orally and can cause adverse health effects or death in significant amounts.

**Chronic Symptoms:** None known.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecology - General** : Very toxic to aquatic life with long lasting effects.

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Sulfuric acid, copper(2+) salt (1:1), pentahydrate (7758-99-8)	
LC50 Fish 1	0.66 (0.66 - 1.15) mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [semi-static])
EC50 Daphnia 1	0.147 (0.147 - 0.227) mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 Fish 2	0.09 (0.09 - 0.19) mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

## 12.2. Persistence and Degradability

Copper (II) Sulfate Pentahydrate (7758-99-8)	
Persistence and Degradability	May cause long-term adverse effects in the environment.

## 12.3. Bioaccumulative Potential

Copper (II) Sulfate Pentahydrate (7758-99-8)	
Bioaccumulative Potential	Not established.

12.4. Mobility in Soil No additional information available

## 12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste Treatment Methods

**Waste Disposal Recommendations:** Dispose of contents/container in accordance with local, regional, national, and international regulations.

**Additional Information:** Container may remain hazardous when empty. Continue to observe all precautions.

**Ecology - Waste Materials:** Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

## SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

### 14.1. In Accordance with DOT

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (Copper sulphate pentahydrate)

Hazard Class : 9

Identification Number : UN3077

Label Codes : 9

Packing Group : III

Marine Pollutant : Marine pollutant

ERG Number : 171



### 14.2. In Accordance with IMDG

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper sulphate pentahydrate)

Hazard Class : 9

Identification Number : UN3077

Packing Group : III

Label Codes : 9

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-F

Marine Pollutant : Marine pollutant



### 14.3. In Accordance with IATA

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper sulphate pentahydrate)

Packing Group : III

Identification Number : UN3077

Hazard Class : 9

Label Codes : 9

ERG Code (IATA) : 9L



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## SECTION 15: REGULATORY INFORMATION

### 15.1. US Federal Regulations

Copper (II) Sulfate Pentahydrate (7758-99-8)	
SARA Section 311/312 Hazard Classes	Health hazard - Acute toxicity (any route of exposure) Health hazard - Serious eye damage or eye irritation

**15.2. US State Regulations** Neither this product nor its chemical components appear on any US state lists, or its chemical components are not required to be disclosed

## SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Date of Preparation or Latest Revision** : 09/30/2019  
**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

### GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
H302	Harmful if swallowed
H318	Causes serious eye damage
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

SDS US (GHS HazCom)