

## SAFETY DATA SHEET

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifiers

Product name Cupric Sulfate 20% Solution

CAS number 7758-99-8

Synonyms Copper (II) sulfate solution

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Laboratory chemicals.

#### 1.3 Details of the supplier of the safety data sheet

Company Lab Alley, LLC  
12501 Pauls Valley Road  
Austin, Texas 78737  
U.S.A.

Telephone 512-668-9918

Fax 512-886-4008

#### 1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Serious Eye Damage	Category 1
Acute Aquatic Hazard	Category 1
Chronic Aquatic Hazard	Category 1

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

Causes serious eye damage.  
Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention: Avoid release to the environment. Wear eye protection/ face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

Spills: Collect spillage.

Disposal: Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified.

## SECTION 3: Composition/information on ingredients

### 3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Water	Aqua; H <sub>2</sub> O	7732-18-5	80%
Copper sulfate pentahydrate	Copper (II) sulfate pentahydrate; Cupric sulfate pentahydrate	7758-99-8	20%

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

If inhaled

Remove to fresh air.

In case of skin contact

Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

Rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

Immediately make victim drink water (two glasses at most). Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see Section 2.2) and/or in Section 11.

#### 4.3 Indication of any immediate medical attention and special treatment needed

No information available.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

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

##### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

#### 5.2 Specific hazards arising from the substance or mixture

Sulfur oxides. Copper oxides. Not combustible. Ambient fire may liberate hazardous vapours.

#### 5.3 Special protective equipment and precautions for firefighters

In the event of fire, wear self-contained breathing apparatus. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

#### 5.4 Further information

##### Flash Point

No information available.

##### Autoignition Temperature

No information available.

##### Explosion limits

###### Upper

No data available.

###### Lower

No data available.

##### Sensitivity to Mechanical Impact

No information available.

##### Sensitivity to Static Discharge

No information available.

##### NFPA

Health	Flammability	Instability	Physical hazards
2	0	0	N/A

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see Section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see Sections 7 and 10). Take up with liquid-absorbent material. Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Precautions on safe handling

For precautions see Section 2.2.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Tightly closed.

#### Incompatibilities

Powdered metals, Anhydrous copper(II) sulfate, hydroxylamine, reacts violently with Magnesium.

## SECTION 8: Exposure controls/personal protection

### 8.1 Occupational exposure limits

#### US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Copper sulfate pentahydrate	TWA	1 mg/m <sup>3</sup>

## Biological occupational exposure limits

No information available.

## 8.2 Exposure controls

### Appropriate engineering controls

Change contaminated clothing. Wash hands after working with substance.

### Personal protective equipment

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles.

#### Skin protection

Required.

#### Body Protection

Protective clothing.

#### Respiratory protection

Required when vapours/aerosols are generated.  
Recommended Filter type: Filter type ABEK.

#### Control of environmental exposure

Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Blue
Odor	No data available
Odor Threshold	No data available
pH	No data available
Melting Point/Range	No data available
Boiling Point/Range	No data available
Evaporation Rate	No data available
Flammability (solid)	No data available
Flammability or explosive limit	No data available
Upper	
Lower	
Vapor Pressure	No data available
Vapor Density	No data available

Density	1.19 g/mL @ 20°C
Solubility	Soluble
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No data available
Decomposition Temp	No data available
Viscosity	No data available
Molecular Formula	CuO4S.5H2O
Molecular Weight	249.68 g/mol
VOC Content(%)	No data available
Oxidizing properties	None

## 9.2 Other safety information

No information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No information available.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

### 10.3 Possibility of hazardous reactions

Violent reactions possible with the generally known reaction partners of water.

### 10.4 Conditions to avoid

Incompatible materials.

### 10.5 Incompatible materials

Powdered metals, Anhydrous copper(II) sulfate, hydroxylamine, reacts violently with Magnesium.

### 10.6 Hazardous decomposition products

In the event of fire, see Section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Product Information, Component Information

#### Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Copper sulfate pentahydrate	481 mg/kg (Rat)	> 2,000 mg/kg (Rat)	-

#### Skin corrosion/irritation

No data available.

**Serious eye damage/eye irritation**

Mixture causes serious eye damage.

**Respiratory or skin sensitization**

No data available.

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed
Copper sulfate pentahydrate	7758-99-8	Not listed	Not listed	Not listed	Not listed	Not listed

**Specific target organ toxicity - single exposure**

No data available.

**Specific target organ toxicity - repeated exposure**

No data available.

**Reproductive toxicity**

No data available.

**Chronic effects**

No data available.

**11.2 Additional Information**

Symptoms of systemic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Other dangerous properties can not be excluded.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Product		Species	Test Results
Copper sulfate	LC50	Oncorhynchus mykiss	0.032 mg/L, 96h static

pentahydrate	EC50	Daphnia magna	0.092 mg/L, 48h static
--------------	------	---------------	------------------------

## 12.2 Persistence and degradability

No data available.

## 12.3 Bio accumulative potential

No data available.

## 12.4 Mobility in soil

No data available.

## 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

## 12.6 Endocrine disrupting properties

No data available.

## 12.7 Other adverse effects

No data available.

## SECTION 13: Disposal considerations

### 13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## SECTION 14: Transport information

### DOT (US)

UN-no	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard Class	9
Packing Group	III

### IMDG

UN-no	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard Class	9
Packing Group	III

### IATA

UN-no	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard Class	9



**SECTION 15: Regulatory information**

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not applicable.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Listed, Copper (II) sulfate pentahydrate (CAS #7758-99-8), RQ: 10 lb.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous**

See Section 2 for more information.

**SARA 313 (TRI reporting)**

Listed, Copper (II) sulfate pentahydrate (CAS #7758-99-8).

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Clean Water Act (CWA)**

Listed, Copper (II) sulfate pentahydrate (CAS #7758-99-8), RQ: 10 lb.

**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

Not listed.

**US state regulations****US. Massachusetts RTK - Substance List**

Listed, Copper (II) sulfate pentahydrate (CAS #7758-99-8).

**US. New Jersey Worker and Community Right-to-Know Act**

Listed, Copper (II) sulfate pentahydrate (CAS #7758-99-8).

**US. Pennsylvania Worker and Community Right-to-Know Law**

Listed, Copper (II) sulfate pentahydrate (CAS #7758-99-8).

**California Proposition 65**

Not listed.

**SECTION 16: Other information**

Issue date: 01/23/2009

Revision 1: 02/12/2025

**SECTION 17: Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.