



## Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

### SECTION 1: Identification

#### 1.1. Product Identifier

**Trade Name or Designation** Copper Sulfate, 1.00 Molar

**Product Number** R2356000

**Other Identifying Product Numbers** R2356000-4A, R2356000-500A

#### 1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

#### 1.3. Details of the Supplier of the Safety Data Sheet

**Company** Ricca Chemical Company

**Address** 412 West Fork Drive

Arlington, TX 76012 USA

**Telephone** 888-467-4222

#### 1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

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### SECTION 2: Hazard(s) Identification

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

| Hazard Class                                              | Category   | Hazard Statements | Precautionary Statements            |
|-----------------------------------------------------------|------------|-------------------|-------------------------------------|
| Serious Eye Damage / Eye Irritation                       | Category 2 | H319              | P264,P280,P305+P351+P338, P337+P313 |
| Hazardous to the Aquatic Environment, Short-term (Acute)  | Acute 1    | H400              | P273,P391,P501                      |
| Hazardous to the Aquatic Environment, Long-term (Chronic) | Chronic 2  | H411              | P273,P391,P501                      |

#### 2.2. GHS Label Elements

Pictograms:



Signal Word: **Warning**

Hazard Statements:

NOTE: Hazard statements may be combined on labels to improve clarity and readability.

| Hazard Number | Hazard Statement                                |
|---------------|-------------------------------------------------|
| H319          | Causes serious eye irritation                   |
| H400          | Very toxic to aquatic life                      |
| H411          | Toxic to aquatic life with long lasting effects |

Precautionary Statements:

NOTE: Precautionary statements may be combined or consolidated on labels to improve clarity and readability.

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### Prevention

| Precautionary Number | Precautionary Statement                               |
|----------------------|-------------------------------------------------------|
| P264                 | Wash hands, arms, and face thoroughly after handling. |
| P273                 | Avoid release to the environment.                     |
| P280                 | Wear protective gloves and eye protection.            |

### Response

| Precautionary Number | Precautionary Statement                                                                                                          |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------|
| P305+P351+P338       | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P337+P313            | If eye irritation persists: Get medical advice or attention.                                                                     |
| P391                 | Collect spillage.                                                                                                                |

### Disposal

| Precautionary Number | Precautionary Statement                                                                                                         |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| P501                 | Dispose of contents/container to suitable waste stream in accordance with local, state, federal, and international regulations. |

### 2.3. Hazards not Otherwise Classified

No other hazards identified.

### 2.4. Ingredients of Unknown Acute Toxicity

21.6 percent of this mixture consists of ingredient(s) of unknown acute inhalation toxicity.

## SECTION 3: Composition / Information on Ingredients

### 3.1. Components of Mixture

| Chemical Name (IUPAC)       | Common Name and Synonyms                                                  | CAS Number | Weight% |
|-----------------------------|---------------------------------------------------------------------------|------------|---------|
| water                       | Water                                                                     | 7732-18-5  | 78.38   |
| copper sulfate pentahydrate | Copper Sulfate Pentahydrate; Sulfuric acid, copper(2+) salt, pentahydrate | 7758-99-8  | 21.62   |

## SECTION 4: First-Aid Measures

### 4.1. Description of Necessary Measures

**Eye Contact:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation, redness, pain, and tearing.

**Ingestion:** Dilute immediately with water or milk. Induce vomiting. Call a physician.

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**Inhalation:** Not expected to require first aid. If necessary, remove to fresh air.

**Skin Contact:** May cause irritation, redness, and pain.

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

Causes serious eye irritation. Avoid ingestion or contact with skin, eyes, or clothing. May cause irritation upon contact. If ingested, dilute with water or milk and induce vomiting. Call a physician. Wash areas of contact with plenty of water for 15 minutes. For eyes, get medical attention. EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause irritation, redness, and pain.

## 4.3. Immediate Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops. Dilute immediately with water or milk. Induce vomiting. Call a physician.

## SECTION 5: Fire-Fighting Measures

### 5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

### 5.2. Specific Hazards Arising from the Substance or Mixture in a Fire

Not considered to be a fire or explosion hazard.

### 5.3. Special Protective Equipment and Precautions for Firefighters

Use protective clothing and NIOSH-approved breathing equipment appropriate for the surrounding fire.

## SECTION 6: Accidental Release Measures

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

Wear protective gloves and eye protection.

### 6.2. Cleanup and Containment Methods and Materials

Absorb with suitable inert material (vermiculite, dry sand, etc) and place in a chemical waste container for proper disposal. Do not flush to sewer. Dispose of in accordance with local regulations.

## SECTION 7: Handling and Storage

### 7.1. Precautions for Safe Handling and Storage Conditions

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

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### SECTION 8: Exposure Controls / Personal Protection

#### 8.1. Exposure Limits

##### U.S. OSHA - Permissible Exposure Limits (PEL) - Time Weighted Averages (TWA)

No limits found.

##### U.S. OSHA - Permissible Exposure Limits (PEL) - Ceiling Limits

No limits found.

##### U.S. OSHA - Permissible Exposure Limits (PEL) - Short Term Exposure Limits (STEL)

No limits found.

##### U.S. OSHA - Specifically Regulated Chemicals

No limits found.

##### ACGIH - Threshold Limit Values - Ceilings (TLV-C)

No limits found.

##### ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

No limits found.

##### ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

| Chemical Name               | CAS Number | Exposure Limit                                                                       |
|-----------------------------|------------|--------------------------------------------------------------------------------------|
| Copper Sulfate Pentahydrate | 7758-99-8  | "1 mg/m <sup>3</sup> TWA (dust and mist, as Cu)" As Copper compounds<br>[RR-00595-8] |

#### 8.2. Engineering Controls

No specific controls are needed. Normal room ventilation is adequate.

#### 8.3. Individual Protective Measures and Personal Protective Equipment

**Respiratory Protection:** Normal room ventilation is adequate.

**Skin Protection:** Chemical resistant gloves.

**Eye Protection:** Safety glasses or goggles.

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## SECTION 9: Physical and Chemical Properties

### 9.1. Basic Physical and Chemical Properties

|                                                   |                     |
|---------------------------------------------------|---------------------|
| <b>Physical State:</b>                            | liquid              |
| <b>Color:</b>                                     | Blue                |
| <b>Odor:</b>                                      | Data not available. |
| <b>Odor Threshold:</b>                            | Data not available. |
| <b>Melting/Freezing Point:</b>                    | Approximately 0°C   |
| <b>Boiling Point/Range:</b>                       | Approximately 100°C |
| <b>Flammability:</b>                              | Data not available. |
| <b>Flammability/Explosive Limits:</b>             | Data not available. |
| <b>Flash Point:</b>                               | Not flammable       |
| <b>Auto-Ignition Temperature:</b>                 | Data not available. |
| <b>Decomposition Temperature:</b>                 | Data not available. |
| <b>pH:</b>                                        | App.4 (0.2 Molar)   |
| <b>Kinematic Viscosity:</b>                       | Data not available. |
| <b>Solubility:</b>                                | miscible            |
| <b>Vapor Pressure:</b>                            | Data not available. |
| <b>Evaporation Rate:</b>                          | Data not available. |
| <b>Relative Density:</b>                          | 1.15                |
| <b>Relative Vapor Density:</b>                    | Data not available. |
| <b>Particle Characteristics:</b>                  | Data not available. |
| <b>Partition Coefficient n-octanol/water, log</b> | Data not available. |

## SECTION 10: Stability and Reactivity

### 10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

### 10.2. Possibility of Hazardous Reactions

Data not available.

### 10.3. Conditions to Avoid and Incompatible Materials

Hydroxylamine, alkalis, phosphates, hydrazine, sulfuric acid, finely powdered metals, active metals (Potassium, Sodium, Magnesium and Zinc).

### 10.4. Hazardous Decomposition Products

Will not occur.

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## SECTION 11: Toxicological Information

### 11.1. Information on Toxicological Effects

#### Acute Toxicity - Oral Exposure:

Oral acute toxicity estimate (ATE): 3672 mg/kg(calculated)

| Chemical Name               | CAS Number | Toxicity                                       |
|-----------------------------|------------|------------------------------------------------|
| Copper Sulfate Pentahydrate | 7758-99-8  | Oral LD50 Rat 794 mg/kg (Source: Canada_WHMIS) |

#### Acute Toxicity - Dermal Exposure:

Not acutely toxic.

| Chemical Name               | CAS Number | Toxicity                                      |
|-----------------------------|------------|-----------------------------------------------|
| Copper Sulfate Pentahydrate | 7758-99-8  | Dermal LD50 Rabbit >8 g/kg (Source: NLM_HSDB) |

#### Acute Toxicity - Inhalation Exposure:

No information found.

### 11.2 Carcinogenicity:

#### International Agency for Research on Cancer (IARC)

| Chemical Name  | CAS Number | Classification |
|----------------|------------|----------------|
| No data found. |            |                |

#### National Toxicology Program (NTP)

| Chemical Name  | CAS Number | Classification |
|----------------|------------|----------------|
| No data found. |            |                |

#### U.S. OSHA specifically regulated carcinogens

| Chemical Name  | CAS Number | Classification |
|----------------|------------|----------------|
| No data found. |            |                |

### 11.3 Additional Toxicology Information:

Causes serious eye irritation.

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### SECTION 12: Ecological Information

#### 12.1. Ecotoxicity

| Chemical Name               | CAS Number | Species         | Exposure | Toxicity                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------|------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Copper Sulfate Pentahydrate | 7758-99-8  | Freshwater Fish | Acute    | LC50 96 h <i>Lepomis macrochirus</i> 0.66 - 1.15 mg/L [semi-static] (EPA); LC50 96 h <i>Lepomis macrochirus</i> 0.96 - 1.8 mg/L [static] (EPA); LC50 96 h <i>Oncorhynchus mykiss</i> 0.1478 - 0.165 mg/L [flow-through] (EPA); LC50 96 h <i>Oncorhynchus mykiss</i> 0.09 - 0.19 mg/L [static] (EPA); LC50 96 h <i>Pimephales promelas</i> 0.6752 mg/L [static] (EPA) |
| Copper Sulfate Pentahydrate | 7758-99-8  | Water Flea      | Acute    | EC50 48 h <i>Daphnia magna</i> 0.147 - 0.227 mg/L [Static] (EPA)                                                                                                                                                                                                                                                                                                     |

#### 12.2. Persistence and Degradability

Data not available.

#### 12.3. Bioaccumulative Potential

Data not available.

#### 12.4. Mobility in soil

Data not available.

#### 12.5. Other Adverse Ecological Effects

Data not available.

### SECTION 13: Disposal Considerations

#### 13.1. Waste Treatment Methods

Data not available.

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## SECTION 14: Transportation Information

### 14.1 Transportation by Land - Department of Transportation (DOT, United States of America)

Not regulated according to DOT regulations.

### 14.2 Transportation by Air - International Air Transport Association (IATA)

Not regulated according to IATA Dangerous Goods Regulations.

### 14.3 Transportation of Dangerous Goods (TDG, Canada)

Not regulated according to TDG regulations.

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### SECTION 15: Regulatory Information

#### 15.01. Occupational Safety and Health Administration (OSHA) Hazards

| Chemical Name  | CAS Number | Regulatory Information |
|----------------|------------|------------------------|
| No data found. |            |                        |

#### 15.02. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

| Chemical Name  | CAS Number | RQ |
|----------------|------------|----|
| No data found. |            |    |

#### 15.03. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

| Chemical Name               | CAS Number | Regulatory Information                                           |
|-----------------------------|------------|------------------------------------------------------------------|
| Copper Sulfate Pentahydrate | 7758-99-8  | "10 lb final RQ; 4.54 kg final RQ" As Cupric sulfate [7758-98-7] |

#### 15.04. Superfund Amendments and Reauthorization Act (SARA) 313 Toxics Release Inventory (TRI)

| Chemical Name               | CAS Number | List               | Regulatory Information                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------|------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Copper Sulfate Pentahydrate | 7758-99-8  | Emission Reporting | "1.0 % de minimis concentration (includes any unique chemical substance that contains Copper as part of that chemical's infrastructure except for CAS numbers 147-14-8, 1328-53-6, or 14302-13-7, or copper phthalocyanine compounds that are substituted with only Hydrogen and/or Bromine and/or Chlorine that meet the molecular structure specified within the regulation, listed under Chemical Category N100)" As Copper compounds [RR-00595-8] |

#### 15.05. Massachusetts Right-to-Know Substance List

| Chemical Name               | CAS Number | Regulatory Information                  |
|-----------------------------|------------|-----------------------------------------|
| Copper Sulfate Pentahydrate | 7758-99-8  | "Present" As Cupric sulfate [7758-98-7] |

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## 15.06. Pennsylvania Right-to-Know Hazardous Substances

| Chemical Name                  | CAS Number | Regulatory Information                                                                                                                 |
|--------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Copper Sulfate<br>Pentahydrate | 7758-99-8  | "Environmental hazard" As Sulfuric acid, copper(2+) salt (1:1) [7758-98-7];<br>"Environmental hazard" As Copper compounds [RR-00595-8] |

## 15.07. New Jersey Worker and Community Right-to-Know Components

| Chemical Name                  | CAS Number | Regulatory Information                                                                 |
|--------------------------------|------------|----------------------------------------------------------------------------------------|
| Copper Sulfate<br>Pentahydrate | 7758-99-8  | "sn 0549" As Cupric sulfate [7758-98-7];<br>"sn 2215" As Copper compounds [RR-00595-8] |

## 15.08. California Proposition 65

| Chemical Name  | CAS Number | Regulatory Information |
|----------------|------------|------------------------|
| No data found. |            |                        |

## 15.09. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

| Chemical Name                  | CAS Number | List | Status                                  |
|--------------------------------|------------|------|-----------------------------------------|
| Water                          | 7732-18-5  | DSL  | Present                                 |
| Copper Sulfate<br>Pentahydrate | 7758-99-8  | DSL  | "Present" As Cupric sulfate [7758-98-7] |

## 15.10. United States of America Toxic Substances Control Act (TSCA) List

| Chemical Name                  | CAS Number | Status                                                                 |
|--------------------------------|------------|------------------------------------------------------------------------|
| Water                          | 7732-18-5  | Present [XU] (ACTIVE)                                                  |
| Copper Sulfate<br>Pentahydrate | 7758-99-8  | "Present (ACTIVE)" As Sulfuric acid, copper(2+) salt (1:1) [7758-98-7] |

## 15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

| Chemical Name                  | CAS Number | List   | Number                                     |
|--------------------------------|------------|--------|--------------------------------------------|
| Water                          | 7732-18-5  | EINECS | 231-791-2                                  |
| Copper Sulfate<br>Pentahydrate | 7758-99-8  | EINECS | "231-847-6" As Copper sulphate [7758-98-7] |

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### 15.12. China - Inventory of Existing chemical Substances (IECSC)

| Chemical Name               | CAS Number | Status          |
|-----------------------------|------------|-----------------|
| Water                       | 7732-18-5  | Present [32224] |
| Copper Sulfate Pentahydrate | 7758-99-8  | Present [35060] |

### 15.13. Korea - Existing Chemicals Inventory (KECI/KECL)

| Chemical Name               | CAS Number | List    | Status                                                          |
|-----------------------------|------------|---------|-----------------------------------------------------------------|
| Water                       | 7732-18-5  | Annex 1 | Present [KE-35400]                                              |
| Copper Sulfate Pentahydrate | 7758-99-8  | Annex 1 | "Present [KE-08956]" As Cupric sulfate [7758-98-7]              |
| Copper Sulfate Pentahydrate | 7758-99-8  | Annex 2 | "97-3-718 (1997-3-0718)" As Inorganic copper salts [RR-03690-8] |

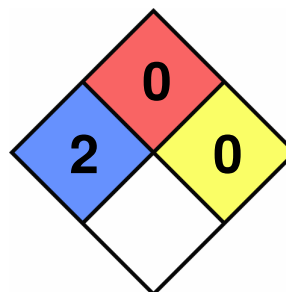
### 15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

| Chemical Name               | CAS Number | MITI No.                                             |
|-----------------------------|------------|------------------------------------------------------|
| Water                       | 7732-18-5  | - (listed on Japanese Pharmacopoeia 8th Edition)     |
| Copper Sulfate Pentahydrate | 7758-99-8  | (1)-300 (not considered as a new chemical substance) |

## SECTION 16: Other Information

### 16.1 National Fire Protection Associate (NFPA) Rating

Health: 2  
 Flammability: 0  
 Reactivity: 0  
 Special Hazard:



### 16.2 Document Revision

Last Revision Date:  
 2026-05-24

## DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.