

# 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-Sulfamic Acid, Inhibitor for Dissolved Oxygen testing

**Product Number** 2360

**Other Identifying Product Numbers** 2360-1, 2360-16, 2360-32, 2360-5

### 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
Skin Corrosion / Irritation	Category 2	H315	P264,P280,P302+P352,P321, P332+P313,P362+P364
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
H315	Causes skin irritation
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
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313	If skin irritation occurs: Get medical advice or attention.
P337+P313	If eye irritation persists: Get medical advice or attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
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

2.5 percent of this mixture consists of ingredient(s) of unknown acute dermal toxicity. 7.9 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	89.59
copper sulfate pentahydrate	Copper Sulfate Pentahydrate; Sulfuric acid, copper(2+) salt, pentahydrate	7758-99-8	4.81
sulfamic acid	Sulfamic Acid; Sulphamidic acid; Aminosulfonic acid	5329-14-6	3.08
acetic acid	Acetic Acid; Ethanoic acid	64-19-7	2.52

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## 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 with water or milk. Do not induce vomiting. Call a physician if necessary.

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

**Skin Contact:** IF ON SKIN: Wash with plenty of water. May cause irritation, redness, and pain.

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

Causes skin irritation CAUTION! Slightly corrosive. Avoid ingestion and contact with skin, eyes, or clothing. If ingested, do not induce vomiting. Dilute with large quantity of water and call a physician. Wash areas of contact with plenty of water. 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 with water or milk. Do not induce vomiting. Call a physician if necessary.

## 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

Do not flush to sewer. Absorb with suitable material. Containerize for disposal with a hazardous waste disposal facility. Dispose of in accordance with local regulations.

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## 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.

## SECTION 8: Exposure Controls / Personal Protection

### 8.1. Exposure Limits

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

Chemical Name	CAS Number	Exposure Limit
Acetic Acid	64-19-7	10 ppm TWA; 25 mg/m <sup>3</sup> TWA

#### 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)

Chemical Name	CAS Number	Exposure Limit
Acetic Acid	64-19-7	15 ppm STEL

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

Chemical Name	CAS Number	Exposure Limit
Acetic Acid	64-19-7	10 ppm TWA
Copper Sulfate Pentahydrate	7758-99-8	"1 mg/m <sup>3</sup> TWA (dust and mist, as Cu)" As Copper compounds [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

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

**Skin Protection:** Chemical resistant gloves.

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

## SECTION 9: Physical and Chemical Properties

### 9.1. Basic Physical and Chemical Properties

**Physical State:** liquid

**Color:** Blue

**Odor:** Data not available.

**Odor Threshold:** Data not available.

**Melting/Freezing Point:** Approximately 0°C

**Boiling Point/Range:** Approximately 100°C

**Flammability:** Data not available.

**Flammability/Explosive Limits:** Data not available.

**Flash Point:** Not flammable

**Auto-Ignition Temperature:** Data not available.

**Decomposition Temperature:** Data not available.

**pH:** Data not available.

**Kinematic Viscosity:** Data not available.

**Solubility:** miscible

**Vapor Pressure:** Data not available.

**Evaporation Rate:** Data not available.

**Relative Density:** 1.04

**Relative Vapor Density:** Data not available.

**Particle Characteristics:** Data not available.

**Partition Coefficient n-octanol/water, log** 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

Strong Oxidizers.

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## 10.4. Hazardous Decomposition Products

Will not occur.

## SECTION 11: Toxicological Information

### 11.1. Information on Toxicological Effects

#### Acute Toxicity - Oral Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Sulfamic Acid	5329-14-6	Oral LD50 Rat 2140 mg/kg (Source: ECHA)
Acetic Acid	64-19-7	Oral LD50 Rat 3530 mg/kg (Source: Canada_HSA)
Copper Sulfate Pentahydrate	7758-99-8	Oral LD50 Rat 794 mg/kg (Source: Canada_WHMIS)

#### Acute Toxicity - Dermal Exposure:

No information found.

Chemical Name	CAS Number	Toxicity
Sulfamic Acid	5329-14-6	Dermal LD50 Rat >2000 mg/kg (Source: ECHA_API)
Copper Sulfate Pentahydrate	7758-99-8	Dermal LD50 Rabbit >8 g/kg (Source: NLM_HSDB)

#### Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, vapor): 337.3016 mg/L, 4 h(calculated)

Chemical Name	CAS Number	Toxicity
Acetic Acid	64-19-7	Inhalation LC50 Rat > 8.5 mg/L 4 h (Source: Canada_HSA)

### 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.		

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## U.S. OSHA specifically regulated carcinogens

Chemical Name	CAS Number	Classification
No data found.		

## 11.3 Additional Toxicology Information:

Causes skin irritation. Causes serious eye irritation.

## SECTION 12: Ecological Information

### 12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Sulfamic Acid	5329-14-6	Freshwater Fish	Acute	LC50 96 h Pimephales promelas 14.2 mg/L [static] (EPA)
Acetic Acid	64-19-7	Freshwater Fish	Acute	LC50 96 h Pimephales promelas 79 mg/L [static] (EPA); LC50 96 h Lepomis macrochirus 75 mg/L [static] (EPA)
Copper Sulfate Pentahydrate	7758-99-8	Freshwater Fish	Acute	LC50 96 h Lepomis macrochirus 0.66 - 1.15 mg/L [semi-static] (EPA); LC50 96 h Lepomis macrochirus 0.96 - 1.8 mg/L [static] (EPA); LC50 96 h Oncorhynchus mykiss 0.1478 - 0.165 mg/L [flow-through] (EPA); LC50 96 h Oncorhynchus mykiss 0.09 - 0.19 mg/L [static] (EPA); LC50 96 h Pimephales promelas 0.6752 mg/L [static] (EPA)
Acetic Acid	64-19-7	Water Flea	Acute	EC50 48 h Daphnia magna 65 mg/L [Static] (EPA)
Copper Sulfate Pentahydrate	7758-99-8	Water Flea	Acute	EC50 48 h Daphnia magna 0.147 - 0.227 mg/L [Static] (EPA)
Sulfamic Acid	5329-14-6	Water Flea	Chronic	NOEC 21 d Daphnia magna 19 mg/L [flow-through] (reproduction, ECHA_API)

### 12.2. Persistence and Degradability

Data not available.

### 12.3. Bioaccumulative Potential

Data not available.

### 12.4. Mobility in soil

Data not available.

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## 12.5. Other Adverse Ecological Effects

Data not available.

## SECTION 13: Disposal Considerations

### 13.1. Waste Treatment Methods

Data not available.

## SECTION 14: Transportation Information

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

**Sizes:** 20 L

**UN Number:** UN3082

**Proper Shipping Name:** Environmentally hazardous substance, liquid, n.o.s. (Copper Sulfate Solution)

**Hazard Class:** 9

**Packing Group:** III

**Hazard Label(s):**



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

**Sizes:** 20 L

**UN Number:** UN3082

**Proper Shipping Name:** Environmentally hazardous substance, liquid, n.o.s. (Copper Sulfate Solution)

**Hazard Class:** 9

**Packing Group:** III

**Hazard Label(s):**





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

**Sizes:** 20 L

**UN Number:** UN3082

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper sulfate solution)

**Hazard Class:** 9

**Packing Group:** III

**Hazard Label(s):**



## SECTION 15: Regulatory Information

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## 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
Acetic Acid	64-19-7	5000 lb final RQ; 2270 kg final RQ
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
Acetic Acid	64-19-7	Present (including glacial)
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
Acetic Acid	64-19-7	Environmental hazard; Environmental hazard (water solutions)
Copper Sulfate Pentahydrate	7758-99-8	"Environmental hazard" As Sulfuric acid, copper(2+) salt (1:1) [7758-98-7]; "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
Sulfamic Acid	5329-14-6	sn 1770
Acetic Acid	64-19-7	sn 0004
Copper Sulfate Pentahydrate	7758-99-8	"sn 0549" As Cupric sulfate [7758-98-7]; "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
Sulfamic Acid	5329-14-6	DSL	Present
Acetic Acid	64-19-7	DSL	Present
Acetic Acid	64-19-7	NDSL	"Present" As Carboxylic acids, C1-5 [68937-68-8]
Water	7732-18-5	DSL	Present
Copper Sulfate 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
Sulfamic Acid	5329-14-6	Present (ACTIVE)
Acetic Acid	64-19-7	Present (ACTIVE)
Water	7732-18-5	Present [XU] (ACTIVE)
Copper Sulfate Pentahydrate	7758-99-8	"Present (ACTIVE)" As Sulfuric acid, copper(2+) salt (1:1) [7758-98-7]

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### 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
Sulfamic Acid	5329-14-6	EINECS	226-218-8
Acetic Acid	64-19-7	EINECS	200-580-7
Water	7732-18-5	EINECS	231-791-2
Copper Sulfate Pentahydrate	7758-99-8	EINECS	"231-847-6" As Copper sulphate [7758-98-7]

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

Chemical Name	CAS Number	Status
Sulfamic Acid	5329-14-6	Present [00446]
Acetic Acid	64-19-7	Present [39068]
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
Sulfamic Acid	5329-14-6	Annex 1	Present [KE-32336]
Acetic Acid	64-19-7	Annex 1	Present [KE-00013]
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.
Sulfamic Acid	5329-14-6	(1)-402
Acetic Acid	64-19-7	(2)-688
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)

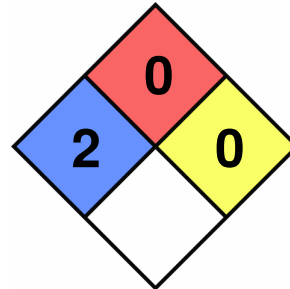
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## SECTION 16: Other Information

### 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.