



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Cupric Sulfate CS, USP / EP Blue Primary Solution
1 mL = 62.4 mg $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

Product Number 2495

Other Identifying Product Numbers 2495-16, 2495-32, 2495-4, R2495000-120C

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

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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

6.1 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	92.89
copper sulfate pentahydrate	Copper Sulfate Pentahydrate; Sulfuric acid, copper(2+) salt, pentahydrate	7758-99-8	6.06
chlorane	Hydrochloric Acid; Muriatic acid	7647-01-0	1.05

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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.

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. 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 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.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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)

No limits found.

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

Chemical Name	CAS Number	Exposure Limit
Hydrochloric Acid	7647-01-0	5 ppm Ceiling; 7 mg/m ³ Ceiling

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)

Chemical Name	CAS Number	Exposure Limit
Hydrochloric Acid	7647-01-0	2 ppm Ceiling

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 ³ 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

Respiratory Protection: Normal room ventilation is adequate.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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

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

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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
Hydrochloric Acid	7647-01-0	Oral LD50 Rat 700 mg/kg (Source: Canada_WHMIS)
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
Hydrochloric Acid	7647-01-0	Dermal LD50 Rabbit >5010 mg/kg (Source: JAPAN_GHS)
Copper Sulfate Pentahydrate	7758-99-8	Dermal LD50 Rabbit >8 g/kg (Source: NLM_HSDB)

Acute Toxicity - Inhalation Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Hydrochloric Acid	7647-01-0	Inhalation LC50 Acute Toxicity Estimate 0.5 mg/L 4 h (Source: ECHA)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
Hydrochloric Acid	7647-01-0	Group 1 (Carcinogenic to Humans) - Monograph 100F [2012]; Monograph 54 [1992] As Acid mists, strong inorganic

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
No data found.		

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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
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.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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	TPQ
Hydrochloric Acid	7647-01-0	500 lb TPQ (gas only)	5000 lb EPCRA RQ (gas only)

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

Chemical Name	CAS Number	Regulatory Information
Hydrochloric Acid	7647-01-0	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
Hydrochloric Acid	7647-01-0	Emission Reporting	1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)
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]

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Hydrochloric Acid	7647-01-0	Extraordinarily hazardous
Copper Sulfate Pentahydrate	7758-99-8	"Present" As Cupric sulfate [7758-98-7]

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Hydrochloric Acid	7647-01-0	Environmental hazard
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
Hydrochloric Acid	7647-01-0	sn 1012
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
Hydrochloric Acid	7647-01-0	DSL	Present
Water	7732-18-5	DSL	Present
Copper Sulfate Pentahydrate	7758-99-8	DSL	"Present" As Cupric sulfate [7758-98-7]

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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

Chemical Name	CAS Number	Status
Hydrochloric Acid	7647-01-0	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]

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
Hydrochloric Acid	7647-01-0	EINECS	231-595-7
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
Hydrochloric Acid	7647-01-0	Present [37053]
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
Hydrochloric Acid	7647-01-0	Annex 1	Present [KE-20189]
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]

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

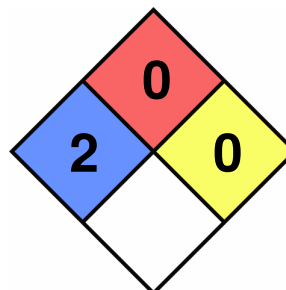
15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Hydrochloric Acid	7647-01-0	(1)-215
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:
 2026-05-23

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.