

Safety Data Sheet

ShoreMet Copper Sulfate Solution

Section 1- Product and Company Identification

Supplier

ShoreMet LLC
3601 Enterprise Ave
Valparaiso, IN 46383

Manufacturer

ShoreMet LLC
3601 Enterprise Ave
Valparaiso, IN 46383

Company Contact: Danny Mislenkov**Telephone Number:** (219) 390-3336 x100**Emergency Contact & Phone Number:****Product Name:** ShoreMet Copper Sulfate Solution**Synonyms:** Copper (II) sulfate, cupric sulphate**Chemical Formula:** $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ **Recommended Use/Restrictions on Use:** industrial chemicals, not to be used as a pesticide**General Comments:** Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, explosion, or accident involving chemicals. All non-emergency questions should be directed to customer service.**Company Contact:** Danny Mislenkov**Telephone Number:** (219) 390-3336 x100**CHEMTREC (800) 424-9300**

Section 2- Hazards Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;**WARNING**

EMERGENCY OVERVIEW

This product is an odorless, blue liquid. This products primary health hazards are the potential for irritation of the eyes, skin, nose and other tissues that come in contact with this product. This product is not flammable or explosive. Thermal decomposition of this product may produce corrosive vapors. Emergency responders should wear proper personal protective equipment for the releases to which they are responding.

Hazard Statements

HARMFUL OR FATAL IF SWALLOWED. Causes skin irritation. Causes serious eye irritation.

Precautionary Statements

Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear eye protection, protective clothing, protective gloves. IF SWALLOWED: Call a doctor, a POISON CENTER if you feel unwell. IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse mouth. Specific treatment see section 4. If skin irritation occurs: Get medical advice/attention. If eye

Safety Data Sheet

ShoreMet Copper Sulfate Solution

Section 2- Hazards Identification (Continued)

irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage. Dispose of contents/container in accordance with local, regional, national, and international.

GHS Classification

Acute toxicity-oral category 4; Serious eye damage/eye irritation—category 2A; Skin corrosion/irritation—category 2.

Primary Route(s) of Entry

Ingestion, inhalation, and skin contact

Potential Health Effects: Eyes

Exposure may cause corneal burns or severe irritation in eyes. Prolonged exposure may result in conjunctivitis.

Potential Health Effects: Skin

This product can cause burns or skin sensitization. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Potential Health Effects: Ingestion

Harmful or fatal if swallowed. May cause gastrointestinal irritation with symptoms such as nausea, vomiting, and diarrhea. Local tissue damage. Oral and gastrointestinal irritation. Gastrointestinal bleeding may follow. The solution is toxic if ingested in large quantities, and can lead to kidney or liver and blood damage.

Potential Health Effects: Inhalation

Irritation of the mucous membranes. Due to low vapor pressure of this product an inhalation hazard is not anticipated unless sprayed. If long term exposure occurs, the individual may develop a metallic taste, nausea and vomiting.

Medical Conditions Aggravated by Exposure:

Persons with hereditary Wilson's disease have an abnormally high level of copper in their system; therefore, individuals with this disease when exposed to this product may accumulate high levels of copper and may suffer liver pathology, which can be fatal. Episodes of intravascular hemolysis have been observed. Skin conditions such as dermatitis.

HMIS Ratings: HEALTH: 2 FIRE: 0 REACTIVITY: 0

Hazard Scale: 0=Minimal, 1=Slight, 2= Moderate, 3= Serious, 4=Severe *=Chronic Hazard

Section 3- Composition/Information on Ingredients

Component	CAS #	Percent
Copper (II) sulfate pentahydrate	7758-99-8	24-26
Sulfuric Acid*	7664-93-9	0-1
Water	7732-18-5	Balance

*Strong inorganic acid aerosols/mists containing this substance are carcinogenic to humans. However, under conditions of normal use this is not a potential route of exposure, and does not warrant a carcinogenicity classification for the mixture.

Section 4- First Aid Measures

First Aid: Eyes

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Remove contact lenses, if present and easy to do. Seek medical attention at once.

First Aid: Skin

For skin contact, wash immediately with soap and water. Immediately take off all contaminated clothing. Seek immediate medical attention if irritation develops or persists.

Safety Data Sheet

ShoreMet Copper Sulfate Solution

Section 4- First Aid Measures (continued)

First Aid: Ingestion

If the material is swallowed, get immediate medical attention or advice—do not induce vomiting. Have victim rinse mouth thoroughly with water, if conscious. Never give anything by mouth to an unconscious victim. Do not use mouth-to-mouth if victim has ingested the substance. Induce artificial respiration with a proper respiratory medical device.

First Aid: Inhalation

If inhaled, immediately remove the affected person to fresh air. If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek immediate medical attention do NOT perform mouth-to-mouth resuscitation unless a pocket mask equipped with a one-way valve or another proper respiratory medical device is available.

Most Important Symptoms and Effects, both Acute and Delayed

Irritation, nausea, headache, shortness of breath

First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically.

Section 5- Firefighting Measures

Extinguishing Media

ABC extinguisher, carbon dioxide, or water spray.

Hazardous Combustion Products

Copper compounds. Combustion products may also include sulfur oxides or other toxic vapors.

Special Firefighting Procedures

Separate from mass. Eliminate oxygen. Material is non-flammable or explosive.

Personal Protective Equipment

Firefighters should wear full protective clothing including self-contained breathing apparatus.

Additional Information

Collect contaminated firefighting water separately, it must not enter the sewer system.

Section 6- Accidental Release Measures

Personal Precautions

Avoid all contact with skin, eyes, or clothing. Avoid breathing vapor, mist or spray. Wear appropriate personal protective equipment: coveralls, gloves, and eye protection. Ensure adequate ventilation and evacuate personnel to safe areas.

Environmental Precautions

Do not allow to enter drains or watercourses. If the product enters drains or sewers, immediately inform the local water company. Where there is contamination of streams, rivers, or lakes contact local agency with responsibility for the environment.

Methods for Clean-Up

Contain spillages and clean-up with vacuum or conventional tools in an attempt to minimize migration use dikes or absorbents. Neutralize with powdered limestone or sodium bicarbonate. Place in a suitable container for recycling or disposal in accordance with local and national waste regulations.

Safety Data Sheet

ShoreMet Copper Sulfate Solution

Section 7- Handling and Storage

Handling Procedures

Do not get this material in your eyes, on your skin, or on your clothing. Use this product with adequate ventilation. Avoid release to the environment. Wash thoroughly after handling. See section 8 for appropriate protective clothing, equipment, and air monitoring procedures.

Storage Procedures

Store in a cool, dry, well-ventilated area. Empty product containers may contain product residue. Do not reuse empty containers. Do not store this material in open or unlabeled containers. Store away from direct sunlight, or any source of intense heat. Store away from area where freezing is possible. Incompatible materials include strong acids, strong bases, and strong oxidizers, therefore, do not store this material near any of these materials. Keep away from food, drink and animal feed. Materials should be stored in secondary areas, or in diked areas, as appropriate. Floors should be sealed to prevent absorption of this material. Appropriate extinguishing equipment should be in storage area. Post warning and "NO SMOKING" signs in storage and use areas, as appropriate.

Section 8- Exposure Controls/Personal Protection

EXPOSURE GUIDELINES:

General Product Information

Follow all applicable exposure limits.

Component Exposure Limits

Copper (II) Sulfate: The exposure limits given are for copper and inorganic compounds as Cu, copper fume as Cu, or copper dust and mists as Cu.

ACGIH: 1 mg/m³ TWA (dusts and mists): 0.2 mg/ m³ (fume)

OSHA: 1 mg/m³ TWA (dusts and mists): 0.1 mg/ m³ (fume)

NIOSH: 1 mg/m³ TWA (dusts and mists): 0.1 mg/ m³ (fume)

Engineering Controls

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits. Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the work location.

PERSONAL PROTECTIVE EQUIPMENT:

Personal Protective Equipment: Eyes/Face

Wear chemical splash goggles.

Personal Protective Equipment: Skin

Use impervious gloves. Recommended nitrile gloves. Use of impervious apron or coveralls and boots are recommended.

Personal Protective Equipment: Respiratory

If ventilation is not sufficient to effectively prevent buildup of vapors or mists, appropriate approved NIOSH respiratory protection must be provided. The following NIOSH guidelines for copper dust and mist (as Cu) are presented for further information.

Up to 5 mg/ m³: Dust and mist respirator

Up to 10 mg/m³: Any dust and mist respirator except single-use, and quarter mask respirators, or any SAR.

Up to 25 mg/m³: SAR operated in continuous-flow mode, or powered air-purifying respirator with dust and mist filter(s).

Up to 50 mg/m³: Air purifying, full face piece respirator with high-efficiency particulate filter(s), any powered air-purifying respirator with tight-fitting face piece and high-efficiency particulate filter(s), or full face piece SAR.

Up to 100 mg/ m³: Positive pressure, full face piece SAR.

Safety Data Sheet

ShoreMet Copper Sulfate Solution

Section 8- Exposure Controls/Personal Protection (Continued)

Personal Protective Equipment: General

Eyewash fountains and emergency showers are required.

Section 9- Physical and Chemical Properties

Appearance: Clear, blue liquid

Physical State: Liquid

pH: 2-2.1

Vapor Pressure: Not available

Boiling Point: Not available

Solubility (H₂O): Not available

Freezing Point: -2 °C (28.4°F)

Flash Point: N/A

Auto-ignition Temperature: N/A

Octanol/H₂O Coeff.: Not Available

Specific Gravity: 1.0-1.2

Odor: Odorless

Odor Threshold: N/A

Viscosity: Not available

Vapor Density: Not available

Melting Point: Not available

Specific Gravity: 6.4 @ 20 °C (68 °F)

Evaporation Rate (*n-BuAc=1*): Not available

Flammability Limits in Air: N/A

Decomposition Temperature: Not available

Percent Volatile by Volume: N/A

Section 10- Chemical Stability and Reactivity Information

Reactivity

Thermal decomposition may generate corrosive vapors.

Chemical Stability

This is a stable material at normal conditions.

Chemical Stability: Conditions to Avoid

Avoid extremely high or low temperatures, direct sunlight and contact with incompatible materials.

Incompatibility

Strong acids, strong bases and strong oxidizers

Hazardous Decomposition

Decomposition products include copper fumes, copper compounds and sulfur dioxide (SO₂) a toxic and irritating gas.

Hazardous Polymerization

Not expected to occur.

Section 11- Toxicological Information

INFORMATION ON TOXICOLOGICAL EFFECTS--PRODUCT

Acute and Chronic Toxicity

Routes of Entry: Ingestion

LD50 and LC50 Data: Copper Sulfate (25%) (CAS Number: 7758-99-8)

ATE (oral): 500 mg/kg body weight

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

Respiratory or Skin Sensitization: Not classified.

Germ Cell Mutagenicity: Not classified.

Teratogenicity: Not classified.

Carcinogenicity: Not classified.

Specific Target Organ Toxicity (repeated exposure): Not classified.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (single exposure): Not classified.

Aspiration Hazard: Not classified.

Safety Data Sheet

ShoreMet Copper Sulfate Solution

Section 11- Toxicological Information (Continued)

Potential Adverse Human Effects and Symptoms: Harmful if swallowed.

Symptoms/Injuries After Inhalation: May cause respiratory irritation.

Symptoms/Injuries After Skin Contact: Causes skin irritation.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation.

Symptoms/Injuries After Ingestion: Harmful if swallowed.

Chronic Symptoms: None expected under normal conditions.

Component Analysis-LD50/LC50: Copper (II) sulfate pentahydrate (CAS Number: 7758-99-8)

Oral LD50 Rat: 300 mg/kg

Component Analysis – LD50/LC50: Sulfuric acid (CAS Number: 7664-93-9)

Oral LD50 Rat: 2140 mg/kg

Inhalation LC50 Rat: 518 mg/m³ (2 h exposure time)

IARC Group 1: National Toxicity Program (NTP) Status—Known human carcinogens.

Section 12- Ecological Information

Ecotoxicity

General Product Information

This product is a severe ecological hazard. This product may be toxic to plants and/or wildlife. Highly/very toxic to fish and other water organisms. Keep out of waterways. Avoid release to the environment.

Mobility in Soil

No data available.

Bioaccumulative Potential

Copper compounds are accumulated by plants and animals, but do not appear to be biomagnify from plants to animals.

Persistence

In soil, acidic conditions promote solubility of copper compounds and increase the concentration of ionic copper and so change the microorganism and other animal populations, depending on their various tolerance levels for copper. In aquatic environments, some copper compounds may be metabolized, however, there is no evidence that biotransformation processes have a significant bearing on the aquatic fate of these compounds. In water, as in soil, copper compounds will bind to carbonates, clay, humic materials, and hydrous oxides of iron and manganese. In the atmosphere, copper compounds (as aerosols) are estimated to have a residence time of two to ten days in an unpolluted atmosphere and 0.1 to less than four days in polluted, urban areas.

Degradability

No data available.

Section 13- Disposal Considerations

US EPA Waste Number & Descriptions

General Product Information

As shipped, this product is not considered a hazardous waste.

Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

All wastes must be handled in accordance with local, state, and federal regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

Safety Data Sheet

ShoreMet Copper Sulfate Solution

Section 14- Transportation Information

US DOT Information: Not Regulated.

International Maritime Dangerous Goods (IMDG): Not Regulated.

International Air Transport Association (IATA): Not Regulated.

Transportation of Dangerous Goods (TDG)- Transport Canada: Not Regulated.

Section 15- Regulatory Information

US Federal Regulations

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Copper sulfate (25%) (7758-99-8)

SARA 311/312 Hazard Classes: Immediate (acute) health hazard.

Sulfuric acid (7664-93-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory.

Listed on the United States SARA Section 302: Threshold Planning Quantity (TPQ) 1000

Listed on the United States SARA Section 313: Emission Reporting 1.0% (acid aerosols including mists, vapors, gas, fog and other airborne forms of any particle size).

State Regulations

General Product Information

Other state regulations may apply. Check individual state requirements.

Component Analysis- State

Sulfuric acid (7664-93-9)

U.S.-California-Proposition 65-Carcinogens List: WARNING: This product contains chemicals known to the State of California to cause cancer.

U.S.-Massachusetts-Right to know list.

U.S.-New Jersey- Right to know hazardous substance list

U.S.-Pennsylvania- Right to know, Right to Know-Environmental Hazard List

Strong inorganic acid mists containing sulfuric acid (RR-03978-1)

U.S.-California-Proposition 65-Cacinogens List: WARNING: This product contains chemicals known to the State of California to cause cancer.

Component Analysis – WHMIS IDL

Copper sulfate 25%/copper (II) sulfate pentahydrate (7758-99-8): Class D Division 1 Subdivision B-Toxic material causing immediate and serious toxic effects. Class D Division 2 Subdivision B-Toxic material causing other toxic effects.

Sulfuric acid (7664-93-9): Listed on the Canadian DSL (Domestic Substance List). Listed on the Canadian IDL (Ingredient Disclosure List): IDL Concentration 1%. Class E-Corrosive Material. Class D Division 2 Subdivision A-very toxic material causing other toxic effects.

Safety Data Sheet

ShoreMet Copper Sulfate Solution

Section 15- Regulatory Information (Continued)



Additional Regulatory Information (TSCA Status)

All components are on the US EPA TSCA Inventory List. All components are on the Canadian Domestic Substances or Non-Domestic Substances Inventory Lists.

Section 16- Other Information

Other Information

Disclaimer: Supplier gives no warranty of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser will make his own tests to determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental and/or consequential property damage arising out of the use of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Safety Data Sheet before handling product.

Reference Documentation

Information based on Safety Data Sheets for similar materials and SDSs for individual components on file at ShoreMet LLC.

Preparer Information

SDS Preparer: Travis J. Lechien

SDS Preparer Telephone Number: (219) 390-3336 x103

Revision Log:

Revision	Date	Initiator	Description of Changes
1	6/30/16	Travis J. Lechien	Original

This is the end of SDS ShoreMet Copper Sulfate Solution