



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Copper chloride

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1. Product and Company Identification

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Trade Name: Copper chloride  
Chemical Formula:  $\text{CuCl}_2$   
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.  
Street: 37 Ramland Road  
City: Orangeburg  
State: New York  
Zip Code: 10962  
Country: USA  
Tel #: 855-587-2436 / 855-lts-chem

24-Hour Emergency Contact: 800-424-9300 (US & Canada)  
+1-703-527-3887 (International)

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2. Hazards Identification

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Signal Word:

Danger



Hazard Statements:

H302+H312: Harmful if swallowed or in contact with skin  
H314: Causes severe skin burns and eye damage  
H318: Causes serious eye damage.  
H400: Very toxic to aquatic life.  
H411: Toxic to aquatic life with long lasting effects

Precautionary Statements:

P260: Do not breathe dust/fume/gas/mist/vapors/spray  
P264: Wash skin thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P302+P352+P312: IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/physician if you feel unwell.  
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P305+ P351+P338+P310: 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.  
P332+P313: If skin irritation occurs: Get medical advice/ attention.  
P362: Take off contaminated clothing and wash before reuse.  
P391: Collect spillage.  
P405: Store locked up  
P501: Dispose of contents/ container to an approved waste disposal plant.

HMIS Health Ratings (0-4):

Health:	3
Flammability:	0
Physical:	1

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3. Composition

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Chemical Family:	Nonmetal
Additional Names:	Copper (II) chloride, Cupric chloride

Copper Chloride (CuCl <sub>2</sub> ):	
Percentage:	100 wt%
CAS #:	7447-39-4
EC #:	231-210-2

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4. First Aid Procedures

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General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None

Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Keep patient warm. Seek immediate medical attention.
Ingestion:	Seek immediate medical attention.
Skin:	Immediately wash affected area with mild soap and water. Remove any contaminated clothing. Seek immediate medical attention.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention.

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5. Firefighting Measures

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Flammability:	Non-flammable
Extinguishing Media:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

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6. Accidental Release Measures

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If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Keep unprotected persons away. Isolate spill area and provide ventilation. Use neutralizing agent. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

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7. Handling and Storage

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Handling Conditions:	Handle under dry protective gas. Avoid contact with skin and eyes. Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store under dry inert gas. Store away from air, water/moisture, humidity, strong bases, oxidizing agents, alkali metals. This product is hygroscopic. This product is air sensitive. Store apart from materials and conditions listed in section 10.

Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

#### 8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	N/A
Threshold Limit Value:	N/A
Special Equipment:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Respiratory Protection:	Dust Respirator
Protective Gloves:	Nitrile rubber gloves with minimum thickness of at least 0.11 mm
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

#### 9. Physical and Chemical Characteristics

Color	N/A
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	620 g/L
Boiling Point:	993 °C
Melting Point:	620 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	3.386 g/cc
Molecular weight:	134.45 g/mol

#### 10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, bases, alkali metals
Incompatible Conditions:	Air, water/moisture, humidity
Hazardous Decomposition Products:	Metal oxide fume, hydrogen chloride, copper oxides

#### 11. Toxicological Information

Potential Health Effects:	
Eyes:	Causes serious eye damage
Skin:	Causes severe skin burns
Ingestion:	Toxic if swallowed
Inhalation:	May cause respiratory irritation
Chronic:	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, gastrointestinal disturbance, lowered blood pressure. Depending on the intensity and duration of exposure, effects may vary from mild irritation to severe destruction of tissue. Stomach - Irregularities - Based on Human Evidence

Signs & Symptoms:	Symptoms of systemic copper poisonings 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.
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	140 mg/kg for rat by mouth
Carcinogen:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

## 12. Ecological Information

Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Toxicity to fish mortality LC50 - <i>Cyprinus carpio</i> (Carp) - 0.12 - 0.23 mg/l - 96.0 h Toxicity to daphnia and other aquatic invertebrates - Immobilization EC50 - <i>Daphnia magna</i> (Water flea) - 0.04 mg/l - 48 h NOEC - <i>Dreissena polymorpha</i> (zebra mussel) - 0.013 mg/l - 63 d Toxicity to algae EC50 - <i>Chlorella vulgaris</i> (Fresh water algae) - 0.2 mg/l - 96 h Do not allow product to reach ground water, water course or sewage system Danger to drinking water if even small quantities leak into the ground. Poisonous to fish and plankton in water bodies. May cause long lasting harmful effects to aquatic life. Avoid transfer into the environment. Very toxic for aquatic organisms.

## 13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

## 14. Transportation Data

Hazardous: Hazardous as powder only.



Hazard Class:	8 Corrosive substances
Packing Group:	III
UN Number:	UN2802
Proper Shipping Name:	Copper chloride

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### 15. Regulatory Information

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Sec 302 Extremely Hazardous:	No
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	Yes

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### 16. Other Information

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This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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