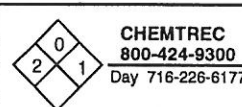


MATERIAL SAFETY DATA SHEET

911 Commerce Court
Buffalo Grove, IL 60089-2375
1-800-727-4358MSDS No. WLC3630T
Effective Date January 16, 2001

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	CUPRIC CHLORIDE, ANHYDROUS
Chemical Synonyms	Copper (II) Chloride, Anhydrous
Formula	CuCl ₂
Unit Size	up to 2.5 Kg.
C.A.S. No.	7447-39-4



NFPA

HAZARD RATING
LEAST SLIGHT MODERATE

0 1 2

Health	2
Fire	0
Reactivity	1

HMIS *

HIGH EXTREME
3 4

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Copper (II) Chloride, Anhydrous	100%	See Section V.

WARNING! CORROSIVE! IRRITANT TO SKIN, EYES AND MUCOUS

MEMBRANES. HARMFUL IF SWALLOWED OR INHALED.

SECTION III PHYSICAL DATA

Melting Point (°F)	498°C (928°F)	Specific Gravity (H ₂ O = 1)	3.386 at 20°C
Boiling Point (°F)	Not applicable.	Percent Volatile by Volume (%)	Not applicable.
Vapor Pressure (mm Hg)	Data not listed.	Evaporation Rate (=1)	Not applicable.
Vapor Density (Air=1)	Not applicable.		
Solubility in Water	70.6 grams per 100 mL water @ 20°C.		
Appearance & Odor	Yellow to brown crystalline powder; no odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Non-flammable.	Flammable Limits in Air % by Volume	N/A	Lower	Upper
Extinguisher Media	Use any media suitable for extinguishing supporting fire.				

SPECIAL FIREFIGHTING PROCEDURES

This material will not burn. In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 154)

UNUSUAL FIRE AND EXPLOSION HAZARDS

Combustion may produce irritating copper fumes and toxic fumes of hydrogen chloride and chlorine. Fire or excessive heat may produce hazardous decomposition products; can react vigorously with oxidizing materials.

D.O.T. Copper chloride, 8, UN 2802, PG III

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

SECTION V HEALTH HAZARD DATA

CC 510

Threshold Limited Value

Toxicity data: orl-rat LD50: 584 mg/kg. (Air) As copper metal:

1.0 mg/m³ for 8 hr. working day. Copper (fume) TWA 0.2 mg/m³.

Effects of Overexposure

INGESTION: Copper salts impart a metallic taste in mouth. May cause gastrointestinal irritation and vomiting. May be fatal if swallowed. **EYES:** Corrosive; causes conjunctivitis. **SKIN:** Irritating to skin, may cause allergic reaction. **INHALATION:** Causes upper respiratory irritation, headache, dizziness, nausea and incoordination. Target organs: Respiratory system, liver, kidneys.

Emergency and First Aid Procedures

INGESTION: If swallowed, do NOT induce vomiting. If conscious, give two glasses of milk or water to drink. Call physician immediately. Never give anything by mouth to an unconscious person. **SKIN:** Flush with water, then wash with mild soap and water. **EYES:** Flush thoroughly with water, lifting upper and lower eyelids occasionally. Get medical attention. **INHALATION:** Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

SECTION VI REACTIVITY DATA

Stability	Unstable		Conditions to Avoid	Excessive moisture and heat.
	Stable	X		
Incompatibility (Materials to Avoid)		Water, potassium, sodium and ammonia vapors. Corrosive to aluminum.		

Hazardous Decomposition Products

Decomposes at high temperatures to form hydrogen chloride and copper oxide.

Hazardous Polymerization

Conditions to Avoid

May Occur	Will Not Occur	Not applicable.
	X	

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled

Sprinkle lime or soda ash on spill to form insoluble copper salt. Sweep up and place in a suitable container for proper disposal. Avoid contaminating public water.

Waste Disposal Method

Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Dispose of in an approved chemical landfill or contract with a licensed chemical waste disposal agency.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	None should be needed in normal laboratory handling. If dusty conditions prevail, work in a ventilation hood or wear a NIOSH/MSHA-approved dust mask or respirator.		
Ventilation	Local Exhaust	Recommended.	Special
	Mechanical (General)	Recommended.	Other

Protective Gloves	Rubber.	Eye Protection	Chemical safety glasses.
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Other Protective Equipment	Goggles, smock, apron, vented hood, proper gloves and eye wash station.
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SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing

Store below 50°C, in a cool, dry place away from acids. This material is very hygroscopic. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling.

Other Precautions

Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Hygroscopic material, protect from moisture. Wash contaminated clothing before reuse.

Revision No. 8	Date 1/16/01	Approved Michael Raszeja	Chemical Safety Coordinator MR
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The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards. Printed on recycled paper.

MATERIAL SAFETY DATA SHEET

5100 W. Henrietta Rd.
West Henrietta, NY 14586
TEL: (866) 260-0501MSDS No. 9701906 9702004
9702006 9702009
Effective Date: September 13, 2002

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	Copper (II) Chloride, Anhydrous	416-984-3000
Chemical Synonyms	Cupric Chloride, Anhydrous	0 3 1 NFPA Health 3 Flammability 0 Reactivity 1

SECTION II DANGEROUS INGREDIENTS

Name	%	TLV Units
Cupric Chloride, Anhydrous	> 98%	TWA: 0.2 mg/m ³ as Cu fume
DANGER! CORROSIVE!		

SECTION III PHYSICAL DATA

Melting Point (°C)	498°C	Specific Gravity (H ₂ O = 1)	3.39
Boiling Point (°C)	Decomposes.	Percent Volatile by Volume (%)	N/A
Vapor Pressure (mm Hg)	0	Evaporation Rate (=1)	N/A
Vapor Density (Air=1)	N/A		
Solubility in Water	70.6 g/100 cc water @ 0°C		
Appearance & Odor	Yellow-brown crystalline powder; no odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash point	Non-flammable.	Flammable Limits in Air % by Volume	N/A	Lower	Upper
Firefighting Procedures					

Use dry chemical, CO₂, alcohol foam, or water spray. In fire conditions, fire-fighters should wear an appropriate mask or a self-containing breathing apparatus.

Flammability and Explosion Hazards

Fire or excessive heat may produce hazardous decomposition products to be produced as dust or fume.

TDG Class 8 Corrosive solid. UN 2802

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. For laboratory use only. Not for drug, food or household use. Keep out of reach of children. Printed on recycled paper.

SECTION V REACTIVITY DATA CC0510

Chemical Stability	Yes	X	If no, under what conditions?
	No		
Incompatible with Other products	Yes	X	Potassium, sodium, nitromethane, hydrazine, sodium hypobromine and alkali metals. In presence of moisture, copper chloride can corrode metals.
	No		

Hazardous Decomposition Products	Hydrogen chloride and copper oxide.
Reactive under what conditions	Excessive moisture and heat, exposure to air.

SECTION VI TOXICOLOGICAL PROPERTIES

Route of Entry	Ingestion. Inhalation.
TLV	TWA: 0.2 mg/m ³ as Cu fume; TWA: 1 mg/m ³ as Cu dust.
Toxicity for animals	LD50: 584 mg/kg oral-rat.
Chronic effects on humans	Repeated or prolonged exposure to the substance can produce target organ damage. Target organs: Respiratory system, liver, kidneys.
Acute effects on humans	Very dangerous in case of eye contact (irritant), of inhalation. Slightly dangerous to dangerous in case of skin contact. May be fatal if swallowed.

SECTION VII PREVENTIVE MEASURES

Waste Disposal	Discharge, treatment, or disposal may be subject to local laws. Consult your local or regional authorities.
Storage	Keep container dry. Keep in a cool place. Keep container tightly closed.
Precautions	Avoid contact with skin and eyes. DO NOT breathe dust. DO NOT ingest. If ingested, seek medical advice immediately.
Spill or leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Wash spill area with soap and water.
Protective Clothing	Safety glasses, lab coat, dust respirator, gloves.

SECTION VIII FIRST AID MEASURES

Specific first aid measures	Ingestion: Call physician or Poison Control Center immediately. Induce vomiting only if advised by the appropriate medical personnel. Eye contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention. Skin contact: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Inhalation: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Allow victim to rest in a well ventilated area. Seek immediate medical attention.
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SECTION IX PREPARATION OF THE MSDS

Rev. No.	3	Date	September 13, 2002	Approved	Michael Raszeja
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