Material Safety Data Sheet

Creation Date 28-Nov-2010 **Revision Date** 10-Apr-2013 **Revision Number** 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **Copper(II) chloride dihydrate**

Cat No. **AC405840000; AC405840025; AC405840050; AC405845000**

Synonyms Cupric chloride dihydrate

Recommended Use Laboratory chemicals

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Entity / Business Name
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview

Toxic if swallowed. Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Corrosive to metal in aqueous solution.

Appearance Blue green **Physical State** Solid **Odor** odorless

Target Organs Eyes, Skin, Respiratory system, Central nervous system (CNS), Liver, Kidney, Reproductive System, Heart, Blood

Potential Health Effects

Acute Effects
Principle Routes of Exposure

Eyes Irritating to eyes.
Skin Irritating to skin. May be harmful in contact with skin.

Inhalation Irritating to respiratory system. May be harmful if inhaled.

Ingestion Toxic if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects May cause central nervous system depression.. Liver and kidney injuries may occur. Mutagenic effects have occurred in experimental animals.. Experiments have shown reproductive toxicity effects on laboratory animals.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Haz/Non-haz

Component	CAS-No	Weight %
Copper (II) chloride dihydrate	10125-13-0	>95
Cupric chloride	7447-39-4	-

4. FIRST AID MEASURES

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately.

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point No information available.

Method - No information available.

Autoignition Temperature No information available.

Explosion Limits

Upper No data available

Lower No data available

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available.

Hazardous Combustion Products No information available.

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Corrosive Material. Containers may explode when heated or if contaminated with water.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA **Health** 2 **Flammability** 0 **Instability** 0 **Physical hazards** N/A

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid dust formation.

Environmental Precautions Keep out of waterways. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

Methods for Containment and Clean Up Sweep up or vacuum up spillage and collect in suitable container for disposal. Do not let this chemical enter the environment. Keep container tightly closed in a dry and well-ventilated place.

7. HANDLING AND STORAGE

Handling Wear personal protective equipment. Use only under a chemical fume hood. Avoid contact with skin and eyes. Do not breathe dust. Do not breathe vapors or spray mist. Do not ingest. Avoid dust formation. Corrosive to most metals when water is present..

Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Store contents under argon. Corrosives area. Do not store in metal containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Copper (II) chloride dihydrate	TWA: 1 mg/m^3		IDLH: 100 mg/m^3 TWA: 1 mg/m^3
Cupric chloride	TWA: 1 mg/m^3		IDLH: 100 mg/m^3 TWA: 1 mg/m^3

NIOSH IDLH: *Immediately Dangerous to Life or Health*

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Blue green
Odor	odorless
Odor Threshold	No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

pH	3.0-3.8
Vapor Pressure	No information available.
Vapor Density	No information available.
Viscosity	No information available.
Boiling Point/Range	No information available.
Melting Point/Range	100°C / 212°F
Decomposition temperature	No information available.
Flash Point	No information available.
Evaporation Rate	No information available.
Specific Gravity	2.54 (H2O=1)
Solubility	No information available.
log Pow	No data available
Molecular Weight	170.48
Molecular Formula	Cl2 Cu . 2 H2 O

10. STABILITY AND REACTIVITY

Stability Hygroscopic.

Conditions to Avoid Heat, flames and sparks. Incompatible products. Exposure to moist air or water.

Incompatible Materials Strong oxidizing agents, Metals

Hazardous Decomposition Products Hydrogen chloride gas

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions Corrosive to metals. May react with metals and lead to the formation of flammable hydrogen gas..

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Copper (II) chloride dihydrate	290 mg/kg (Rat)	Not listed	Not listed
Cupric chloride	584 mg/kg (Rat) 140 mg/kg (Rat) 233 mg/kg (Mouse)	Not listed	Not listed

Irritation Irritating to eyes, respiratory system and skin

Toxicologically Synergistic Products No information available.

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects Mutagenic effects have occurred in experimental animals.

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects No information available.

Teratogenicity No information available.

Other Adverse Effects The toxicological properties have not been fully investigated.. See actual entry in RTECS for complete information.

Endocrine Disruptor Information No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Copper (II) chloride dihydrate	Not listed	Not listed	= 0.16 mg/L EC50 Photobacterium phosphoreum 30 min as Cu++ = 0.27 mg/L EC50 Photobacterium phosphoreum 15 min as Cu++ = 1.29 mg/L EC50 Photobacterium phosphoreum 5 min as Cu++	Not listed
Cupric chloride	EC50: 0.12 - 0.2 mg/L/96h	LC50: 0.120-0.130 mg/L/96h (Carp) ; LC50: 0.9 mg/L/96h (Bluegill sunfish) ; LC50: 0.08 mg/L/96h (Rainbow trout)	Not listed	EC50: 0.04 mg/L/48h

Persistence and Degradability Not readily biodegradable.

Bioaccumulation/ Accumulation No information available

Mobility No information available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

14. TRANSPORT INFORMATION

DOT

UN-No UN2802
Proper Shipping Name COPPER CHLORIDE
Hazard Class 8
Packing Group III

14. TRANSPORT INFORMATION

TDG

UN-No	UN2802
Proper Shipping Name	COPPER CHLORIDE
Hazard Class	8
Packing Group	III

IATA

UN-No	2802
Proper Shipping Name	COPPER CHLORIDE
Hazard Class	8
Packing Group	III

IMDG/IMO

UN-No	2802
Proper Shipping Name	COPPER CHLORIDE
Hazard Class	8
Packing Group	III

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Copper (II) chloride dihydrate	-	-	-	-	-		X	X	X	X	-
Cupric chloride	X	X	-	231-210-2	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313
Not applicable

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Copper (II) chloride dihydrate	10125-13-0	>95	1.0
Cupric chloride	7447-39-4	-	1.0

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act
Not applicable

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Copper (II) chloride dihydrate	-	-	X	-
Cupric chloride	X	10 lb	X	-

Clean Air Act
Not applicable

OSHA
Not applicable

CERCLA
Not Applicable

Component	Hazardous Substances RQs	CERCLA EHS RQs
Cupric chloride	10 lb	-

California Proposition 65
This product does not contain any Proposition 65 chemicals.

State Right-to-Know
Not applicable

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Copper (II) chloride dihydrate	-	-	X	-	-
Cupric chloride	X	-	X	-	-

U.S. Department of Transportation

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

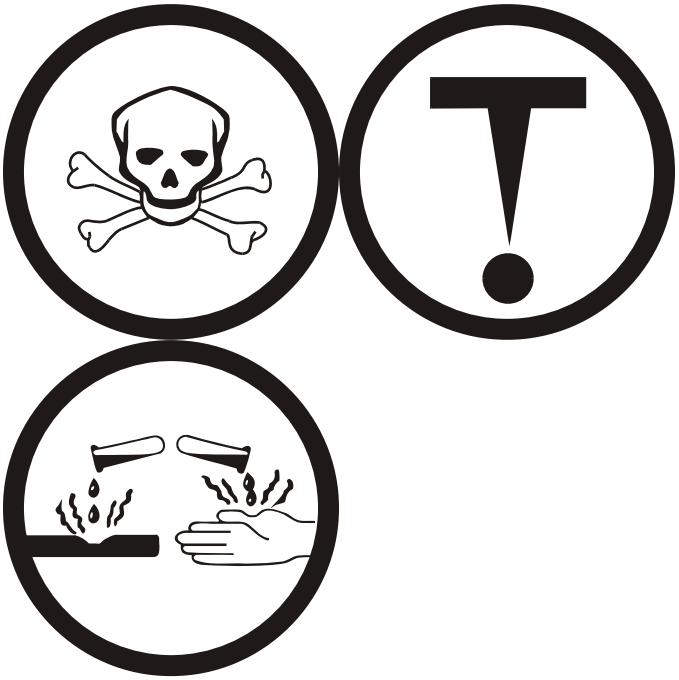
Other International Regulations

Mexico - Grade No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
D1B Toxic materials
D2B Toxic materials
E Corrosive material



16. OTHER INFORMATION

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Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS