

MATERIAL SAFETY DATA SHEET

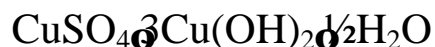
Introductory Details

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Date revised : 9 June 2008

SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Details

Product Name : CUPROXAT FL
Trade Name : CUPROXAT FL
Chemical Name : Tribasic copper sulfate
Chemical Formula : $\text{CuSO}_4 \cdot 3\text{Cu}(\text{OH})_2 \cdot \frac{1}{2}\text{H}_2\text{O}$
Molar Mass : 461.244
Chemical Family : Copper compound
Manufacturer's Code : -
Use : Fungicide
Structural Formula :



Tribasic copper sulfate

1.2 Company Identification

Manufacturer : Available upon request

Importer/Distributor

Name and Address : Agricultural Chemicals (M) Sdn. Bhd.
962, Lorong Perusahaan 8, Taman Perindustrian Perai,
13600 Perai, Pulau Pinang, Malaysia.

Telephone Number : 604-390 7988

Emergency Telephone Number : 604-390 7988

1.3 Contact Point

Designation : Ms. Cheong Wai Ching, Product Support Manager /
En. Labib bin Yusof, Administrative Assistant

Tel. No. : 604-390 7988

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SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENT

Chemical Name	CAS No.	Proportion	Exposure Limit	Toxicity Data
Tribasic copper sulfate	12527-76-3	27.2 % w/w	No data available	Refer section 11
Ethandiol	107-21-1	6.3 % w/w		

SECTION 3 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Greenish-blue suspension
Odour	: Characteristic
Solubility	: Insoluble in water, but dispersible in/with water
Boiling Point	: ca. 100°C at 1.013 hPa
Melting Point (°C)	: No data available
Vapour Pressure (mm of Hg at 25°C)	: Negligibly low. Active ingredient is an inorganic salt.
Percentage Volatiles	: No data available
Evaporation Rate	: No data available
Vapour Density	: No data available
Specific Gravity	: ca.1.28 g/cm ³
Flash Point	: Does not flash
Autoignition temperature	: No data available
Flammable limit (%)	: No data available
pH	: ca.7 at 12.8 g/l
Start of Crystallization	: ca.-3°C

SECTION 4 : HAZARD IDENTIFICATION

Harmful by inhalation

SECTION 5 : FIRST AID MEASURES

Ingestion	: If ingested, gastric lavage. Rinse mouth. Obtain medical attention. Do not induce vomiting
Eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist

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Skin contact : Wash off with soap and plenty of water
Inhalation : Move to fresh air
Notes to physician :
Symptoms : Stomach pains, vomiting, symptoms attributed to the CNS and kidneys, hemolytic crisis accompanied by damage in the liver and brain.
Treatment : No specific antidote, symptomatic treatment
Decontamination : 1 spoon of a 1% solution if K-Hexacyanoferrat

SECTION 6 : FIRE FIGHTING MEASURES

Extinguishing Media : Water spray, dry powder, sand, foam, carbon dioxide. **MUST NOT USE HIGH VOLUME WATER JET FOR SAFETY REASONS.**
Fire fighting instruction : Fire fighters shall wear full faced self contained breathing apparatus.
Special hazards : None

SECTION 7 : ACCIDENTAL RELEASE MEASURE

Leak and/or Spill :

Use personal protective equipment (see Section 9). Do not flush into surface water or sanitary sewer system. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Use mechanical handling equipment. Never return spills in original containers for re-use.

SECTION 8 : HANDLING AND STORAGE

Handling : Keep out of reach of children. Wear personal protective equipment.

Storage : Store at room temperature in the original container.
Keep away from food, drink and animal feeding stuffs.
German storage class: 12/10 (Non Combustible Liquids, Packaging possibly combustible)
Storage temperature: > 0°C

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SECTION 9 : EXPOSURE CONTROL AND PERSONAL PROTECTION

a. Exposure Limit :

Components with workplace control parameters (according Austrian occupational exposure limits)

Components	CAS No.	Occupational exposure limits	Note
Tribasic copper sulfate	12527-76-3	1 mg/m ³	Inhalable fraction
Ethandiol	107-21-1	26 mg/m ³	

b. Engineering measures : No data available

c. Personal protection

Respiratory protection : No special protective equipment required

Hand protection : Protective gloves

Eyes protection : Safety glasses

Skin & body protection: Long sleeved clothing

SECTION 10 : STABILITY AND REACTIVITY

Conditions to avoid : No data available

Incompatibles : Strong acids, Aluminium and its alloys, Iron

Decomposition Products : No decomposition if stored normally

Hazardous polymerization : No data available

Stability : Storage temperature: > 0°C

SECTION 11 : TOXICOLOGICAL INFORMATION

Toxicity Data : Acute Oral LD₅₀ (Rat) : 2500 mg/kg
Acute Dermal LD₅₀ (Rat) : > 2000 mg/kg
LD₅₀ Inhalation (Rat) : > 2.556 mg/l (4 h)
Skin irritation Rabbit No Skin irritation
Eye irritation Rabbit No eye irritation
Sensitization Guinea Pig Did not cause sensitization

Carcinogenicity : No data available

Reproductive Effect : No data available

Effects of overexposure : No data available

Chronic effects : No data available

Target organs : No data available

Medical Conditions Generally Aggravated by exposure : No data available

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SECTION 12 : ECOLOGICAL INFORMATION

Mobility & Bioaccumulation	: No data available
Biodegradability	: No data available
Aquatic toxicity	: NOEC Rainbow trout Dose: ca. 65 mg/l Testing period: 21 d
	LD ₅₀ Rainbow trout Dose: > 100 mg/l Testing period: 96 h
Toxicity to birds	: LC ₅₀ Coturnix coturnix japonica (Japanese quail) Dose: 1428 mg/kg
Toxicity to bees	: Not toxic to bees
Toxicity to daphnia	: Static test EC ₅₀ Daphnia magna (Water flea) Dose: 0.72 mg/l Testing period: 48 h
Toxicity to algae	: EC ₅₀ Scenedesmus subspicatus Dose: > 100 mg/l Exposure time: 72 h
Toxicity to bacteria	: IC ₅₀ Dose: > 100 mg/l
Further information	: According to the experience of the manufacturer, doesn't cause any disturbance in waste water clarifying plant if used appropriately. Environmental damage is not known or expected under normal use.

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SECTION 13 : DISPOSAL INFORMATION

Dispose of waste in accordance with government or local regulations.

Dispose empty and triple rinsed container within a local disposing system according to EC directive 94/62/EC

According to Austrian standard ÖNORM S2100: Waste Key Number: 53103

According to European Directive 2000/532/EC as amended: Waste Key Number: 02 01 08
(agrochemical waste containing dangerous substances)

SECTION 14 : TRANSPORT INFORMATION

Follow all local regulations.

UN No.: 3082

Description of the goods: UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.*(copper(II)-ions)

ADR/RID:

Class: 9 Packaging group: III

IMDG:

Class: 9 Packaging group: III Marine pollutant: MP

IATA-DGR:

Class: 9 Packaging group: III

SECTION 15 : REGULATORY INFORMATION

Pesticides Act : Class III - Harmful

CPL Regulations : Class - Harmful

Risk Phrase : R20 Harmful by inhalation

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Safety Phrase : S23 Do not breathe spray

Dangerous substance according to Austrian Commercial Code, appendix 5: part 2, item 10

SECTION 16 : OTHER INFORMATION

Reference : (a) MSDS Nufarm Gmbh & Co. KG
Issue date 12.10.2005

- (b) Guidelines for The Classification of Hazardous Chemicals, DOSH 1997
- (c) Guidelines for The Formulation of A Chemical Safety Data Sheet, DOSH 1997
- (d) Guidelines for Labelling of Hazardous Chemicals, DOSH 1997

To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.