



## Safety Data Sheet

Date of Issue: 03.09.2024

Date of Expiry: 03.09.2029

### 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Company Name** : ECP Limited  
**Address** : PO Box 34125, Birkenhead, Auckland 0746  
**Telephone** : +64 9 480 4386  
**Facsimile** : +64 9 480 4385  
**Emergency phone number** : 0800 243 622 (24 hours)

<b>Product Name</b>	<b>Copper (II) Sulfate Anhydrous</b>
<b>Product Code</b>	20608
<b>CAS No.</b>	7758-98-7

**Recommended use** : Laboratory Investigations

### 2: Hazard's identification

#### 2.1 GHS Classification

Acute toxicity, Oral (Category 4)  
Skin corrosion/irritation (Category 2)  
Serious eye damage/eye irritation (Category 2)  
Hazardous to the aquatic environment - acute hazard (Category 1)  
Hazardous to the aquatic environment - chronic hazard (Category 1)

#### 2.2 GHS Label elements, including precautionary statements

##### Pictogram



**WARNING**

##### Hazard Statements

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H410 Very toxic to aquatic life with long lasting effects.

##### Precautionary Statements

###### Prevention

P264 Wash skin thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.

###### Response

P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P391 Collect spillage.

###### Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

### 3: Composition/information on ingredients

#### 3.1 Substances

Formula	:	CuSO <sub>4</sub>
Molecular weight	:	159.61 g/mol
CAS-No.	:	7758-98-7
EC-No.	:	231-847-6
Index-No.	:	029-004-00-0

### 4: First aid measures

#### 4.1 Description of first-aid measures

##### General advice

Show this material safety data sheet to the doctor in attendance.

##### If inhaled

After inhalation: fresh air.

##### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

##### In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

##### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

### 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

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

##### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

#### 5.2 Special hazards arising from the substance or mixture

Sulfur oxides

Copper oxides

Not combustible.

Fire may cause evolution of:

Sulfur oxides, metal fumes

Ambient fire may liberate hazardous vapours.

#### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### 5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

### 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

#### 6.2 Environmental precautions

Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

#### 6.4 Reference to other sections

For disposal see section 13.

### 7: Handling and storage

#### 7.1 Precautions for safe handling

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

##### Storage conditions

Tightly closed. Dry.

Recommended storage temperature see product label.

##### Storage class

Storage class (TRGS 510): 13: Non Combustible Solids

#### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

### 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### Occupational Exposure Limits Table

Component	CAS No.	Value	Control parameters	Basis
Copper (II) Sulfate	7758-98-7	WES-TWA	0.01 mg/m <sup>3</sup>	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
	Remarks	Skin Sensitizer		

#### 8.2 Exposure controls

##### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

##### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type or respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

## **9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

a) Physical state	:	solid
b) Color	:	light gray
c) Odor	:	odorless
d) Melting point/freezing point	:	200 °C
e) Initial boiling point and boiling range	:	Not applicable
f) Flammability (solid, gas)	:	The product is not flammable.
g) Upper/lower flammability or explosive limits	:	No data available
h) Flash point	:	Not applicable
i) Autoignition temperature	:	No data available
j) Decomposition temperature	:	No data available
k) pH	:	3.5 - 4.5 at 50 g/l at 20 °C
l) Viscosity	:	
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
m) Water solubility	:	203 g/l at 20 °C
n) Partition coefficient: n-octanol/water	:	Not applicable for inorganic substances
o) Vapor pressure	:	9.7 hPa at 25 °C
p) Density	:	3.603 g/cm <sup>3</sup> at 25 °C
Relative density	:	No data available
q) Relative vapor density	:	No data available
r) Particle characteristics	:	No data available
s) Explosive properties	:	No data available
t) Oxidizing properties	:	none

### **9.2 Other safety information**

Bulk density	:	ca.800 kg/m <sup>3</sup>
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## **10: Stability and reactivity**

### **10.1 Reactivity**

No data available

## 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

## 10.3 Possibility of hazardous reactions

Exothermic reaction with:

hydroxylamine

Strong oxidizing agents

powdered magnesium

## 10.4 Conditions to avoid

no information available

## 10.5 Incompatible materials

No data available

## 10.6 Hazardous decomposition products

In the event of fire: see section 5

# 11: Toxicological information

## 11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - 481 mg/kg

(OECD Test Guideline 401)

Inhalation: No data available

LD50 Dermal - Rat - male and female - > 2,000 mg/kg

(OECD Test Guideline 402)

### Skin corrosion/irritation

Remarks: Causes skin irritation.

### Serious eye damage/eye irritation

Remarks: Causes serious eye irritation.

### Respiratory or skin sensitization

Freund's complete adjuvant test - Guinea pig

Result: negative

(OECD Test Guideline 406)

The value is given in analogy to the following substances: Copper sulphate pentahydrate

### Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: unscheduled DNA synthesis assay

Species: Rat

Cell type: Liver cells

Application Route: Oral

Method: OECD Test Guideline 486

Result: negative

Test Type: Micronucleus test

Species: Mouse

Cell type: Red blood cells (erythrocytes)

Application Route: Oral

Method: Mutagenicity (micronucleus test)

Result: negative

### **Carcinogenicity**

No data available

### **Reproductive toxicity**

Possible risk of congenital malformation in the fetus.

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

### **Specific target organ toxicity - single exposure**

No data available

### **Specific target organ toxicity - repeated exposure**

No data available

### **Aspiration hazard**

No data available

### **11.2 Additional Information**

Symptoms of systemic copper poisoning 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. 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 led to hemolytic anemia and accelerates arteriosclerosis.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## **12: Ecological information**

### **12.1 Toxicity**

Toxicity to fish

static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - 0.032 mg/l - 96 h

Remarks: (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - *Daphnia magna* (Water flea) - 0.092 mg/l - 48 h

(OECD Test Guideline 202)

Remarks: (anhydrous substance)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

semi-static test NOEC - *Daphnia magna* (Water flea) - 0.028 mg/l - 21 d

(OECD Test Guideline 211)

### **12.2 Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

### **12.3 Bioaccumulative potential**

No data available

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

## 12.6 Endocrine disrupting properties

No data available

## 12.7 Other adverse effects

Fungicide

Discharge into the environment must be avoided.

## 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

## 14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	UN Number	3077	3077	3077
14.2	UN Proper Shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper(II) sulphate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper(II) sulphate)	Environmentally hazardous substance, solid, n.o.s. (Copper(II) sulphate)
14.3	Transport Hazard Class	9	9	9
14.4	Packaging group	III	III	III
14.5	Environmental Hazards	Yes	Yes	Yes
14.6	Special precautions for user	none		

### Other regulations

Hazchem Code : 2Z

## 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### National regulatory information

HSNO Approval Code:

HSNO Group Standard Approval: not required

Tracking Required: not required

Approved Handler Cert.: 6.1C

## 16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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