

## SAFETY DATA SHEET

### Section 1. Identification of the material and the supplier

Product: **Copper Sulphate 25%**  
 Product Use: Fertilizer.  
 Restriction of Use: Refer to Section 15

New Zealand Supplier: Horticulture Ltd  
 Address: 10 Firth Street  
 Drury, 2113

Telephone: +64 9 294 8453  
 Fax Number: +64 9 294 7272

**Emergency Telephone: 0800 764 766 (National Poison Centre)**

Date of SDS Preparation: 10 March 2022

### Section 2. Hazards Identification

**Classified as hazardous according to Regulation (EC) No. 1272/2008 which meets New Zealand jurisdiction criteria as per EPA Hazardous Substances (Classification) Notice 2020.**

**EPA Approval No: Fertilisers (subsidiary) – HSR002571**

#### Pictograms



Signal Word: **DANGER**

GHS Classification and Category	Hazard Code	Hazard Statement
Acute oral toxicity Cat. 4	H302	Harmful if swallowed.
Serious eye damage Cat. 1	H318	Causes serious eye damage.
Hazardous to the aquatic environment chronic Cat. 1	H410	Very toxic to aquatic life with long lasting effects.

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in Section 8.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P310	Immediately call a POISON CENTER or doctor/physician.
P330	Rinse mouth.
P391	Collect spillage.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Code	Storage Statement
None allocated	

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

### Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Copper(II) sulfate pentahydrate	>96	7758-99-8

### Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Remove victim from polluted area. Immediately flush eyes with plenty of water (> 15min), occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.
If on Skin	Remove victim from polluted area. Remove all contaminated clothing and footwear. Rinse and then wash skin thoroughly with water and soap. Take victim to a doctor if irritation occurs.
If Swallowed	Rinse mouth with water. If victim conscious and alert, give 1-2 glasses of water to drink. Immediately call a POISON CENTER/doctor. Ingestion of large quantities: immediately to hospital.
If Inhaled	Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult.

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

Symptoms:

Inhalation:	AFTER INHALATION OF DUST: Dry/sore throat. Coughing. ON HEATING: Metal fume fever.
Ingested:	Metal taste. Irritation of the oral mucous membranes. Nausea. Vomiting. Headache. Dizziness. Feeling of weakness. After absorption of high quantities: Abdominal pain. Diarrhoea. Change in the blood composition. Change in urine composition. Disturbances of consciousness.
Skin:	Causes mild skin irritation.
Eye:	Causes serious eye damage. Corrosion of the eye tissue.
Chronic:	On continuous/repeated exposure/contact: red skin. itching. skin rash/inflammation. feeling of weakness. Loss of weight. coughing. Possible inflammation of the respiratory tract. risk of pneumonia. Enlargement/affection of the liver. Change in the blood composition.

Advice to Doctor: Drain stomach by gastric lavage under qualified medical supervision. Treat symptomatically.

## Section 5. Fire Fighting Measures

<b>Hazard Type</b>	The product is non-flammable and non-combustible.
<b>Explosion hazard</b>	No direct explosion hazard.
<b>Hazards from products</b>	Reacts on exposure to water (moisture) with (some) metals Hazardous decomposition products in case of fire : When heating/combustion: formation of toxic and corrosive gases/vapours (sulphur dioxide)
<b>Suitable Extinguishing media</b>	Extinguishing media for surrounding fires : Adapt extinguishing media to the environment.
<b>Precautions for firefighters and special protective clothing</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Exposure to fire/heat: keep upwind, consider evacuation and have neighbourhood close doors and windows. Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.
<b>HAZCHEM CODE</b>	<b>3Z</b>

## Section 6. Accidental Release Measures

Ensure adequate air ventilation. Avoid all eye and skin contact and do not breathe vapour and mist. Wear PPE as detailed in Section 8. Keep unnecessary and unprotected personnel from entering. Mark the danger area. Prevent dust cloud formation. No naked flames. Wash contaminated clothes. In case of reactivity hazard: consider evacuation.

Prevent soil and water pollution. Prevent spreading in sewers.

Any spillage should be cleaned up immediately. Stop leaks if possible. Dam up the solid spill. Take up mechanically, placing in appropriate containers for recovery or disposal. Dispose as per Section 13.

## Section 7. Handling and Storage

### Precautions for Handling:

- Read label before use.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.
- Avoid contact with skin and eyes.
- Use sufficient ventilation.
- Avoid breathing dust or raising dust. In case of inadequate ventilation wear respiratory protection.
- Do not eat, drink or smoke during use.
- If on skin, take off contaminated clothing.
- Eye wash fountains should be readily available in handling and storage areas.
- Keep away from food, drink and animal feeding stuffs.

### Precautions for Storage:

- Store in dry, well-ventilated area away from sources of ignition and direct sunlight.
- Keep only in the original container.
- Store at ambient temperatures.
- Store away from (strong) bases, reducing agents and water/moisture.

- Unauthorized persons are not admitted.
- Secure fragile packaging's in solid containers.
- Packaging Materials: paper with plastic inner lining paper with plastic inner lining, Glass, synthetic material, polyethylene, polypropylene

## Section 8 Exposure Controls / Personal Protection

### WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>

No ingredients have exposure limits

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2020 12TH EDITION.

#### Copper sulfate 25%Cu (7758-99-8)

##### DNEL/DMEL (Workers)

Long-term - local effects, dermal 137 mg/kg bodyweight/day (Powder)

Long-term - local effects, inhalation 1 mg/m<sup>3</sup> (Dust)

##### DNEL/DMEL (General population)

Long-term - systemic effects, oral 0.041 mg/kg bodyweight/day PNEC (Water)

PNEC aqua (freshwater) 7.8 µg/l as dissolved Cu

PNEC aqua (marine water) 5.2 µg/l as dissolved Cu

PNEC (Sediment)

PNEC sediment (freshwater) 87 mg/kg dwt (expressed as element)

PNEC sediment (marine water) 676 mg/kg dwt (expressed as element) PNEC (Soil)

PNEC soil 65.5 mg/kg dwt (expressed as element) PNEC (STP)

PNEC sewage treatment plant 230 µg/l (expressed as element)

#### Engineering Controls

Provide appropriate exhaust ventilation at places of dust forming.

#### Personal Protection Equipment



<b>Eyes</b>	Safety glasses. In case of dust production: protective goggles.												
<b>Hands</b>	Take advice to your gloves' supplier, Replace damaged gloves <table border="1"> <thead> <tr> <th>Type</th> <th>Material</th> <th>Permeation</th> <th>Thickness (mm)</th> </tr> </thead> <tbody> <tr> <td>Reusable gloves</td> <td>Nitrile rubber (NBR)</td> <td>6 (&gt; 480 min)</td> <td>0,35</td> </tr> <tr> <td>Reusable gloves</td> <td>Butyl rubber, Natural 6 (&gt; 480 min) rubber, Polyvinylchloride (PVC), Latex</td> <td></td> <td>0,5</td> </tr> </tbody> </table>	Type	Material	Permeation	Thickness (mm)	Reusable gloves	Nitrile rubber (NBR)	6 (> 480 min)	0,35	Reusable gloves	Butyl rubber, Natural 6 (> 480 min) rubber, Polyvinylchloride (PVC), Latex		0,5
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<b>Skin</b>	Wear suitable protective clothing.												
<b>Respiratory</b>	Dust production: dust mask with filter type P3												
	Care for eyewash stations at the workplace.												

## Section 9 Physical and Chemical Properties

<b>Appearance</b>	Crystalline solid. Crystalline powder.
<b>Colour</b>	Blue
<b>Odour</b>	Odourless

<b>Molecular Weight</b>	249.68 g/mol
<b>Odour Threshold</b>	Not available
<b>pH</b>	4 (3.2 %)
<b>Boiling Point</b>	Not available
<b>Melting Point</b>	Not available
<b>Freezing Point</b>	Not available
<b>Flash Point</b>	Not available
<b>Flammability</b>	Not flammable
<b>Upper and Lower Explosive Limits</b>	Not available
<b>Vapour Pressure</b>	Not available
<b>Vapour Density</b>	Not available
<b>Relative Density</b>	2.3
<b>Density</b>	2.2286 g/cm <sup>3</sup>
<b>Solubilities</b>	Soluble in water. Soluble in methanol. Soluble in glycerol.
<b>Water</b>	22 g/100ml @ 25°C
<b>Ethanol</b>	16 g/100ml (18 °C)
<b>Log Pow</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	>110°C
<b>Viscosity, kinematic</b>	Not applicable. Inorganic substance with high melting point
<b>Particle Characteristics</b>	Not available
<b>Other Properties</b>	Hygroscopic. Substance has acid reaction.
<b>VOC Content</b>	0%

## Section 10. Stability and Reactivity

<b>Stability of Substance</b>	Stable under normal conditions.
<b>Reactivity</b>	Reacts on exposure to water (moisture) with (some) metals Reacts violently with Chlorates Bromates Hydrogen peroxide Reacts violently with (strong) bases Reacts violently with (some) metal powders.
<b>Conditions to Avoid</b>	Avoid high temperatures.
<b>Incompatible Materials</b>	Keep substance away from: hydrogen peroxide. bromates. chlorates. strong bases. Oxidizing agent. magnesium.
<b>Hazardous Decomposition Products</b>	On burning: release of toxic and corrosive gases/vapors (sulphur oxides) and formation of metallic fumes.

## Section 11 Toxicological Information

### Acute Effects:

<b>Swallowed</b>	Harmful if swallowed: LD50 rat = 2660mg/kg
<b>Dermal</b>	Not applicable. LD50 rabbit = >2000mg/kg
<b>Inhalation</b>	Not applicable.
<b>Eye</b>	Causes serious eye damage.
<b>Skin</b>	Not applicable.

### Chronic Effects:

<b>Carcinogenicity</b>	Not applicable.
<b>Reproductive Toxicity</b>	Not applicable.
<b>Germ Cell Mutagenicity</b>	Not applicable.
<b>Aspiration</b>	Not applicable.

<b>STOT/SE</b>	Not applicable.
<b>STOT/RE</b>	Not applicable.

**Copper sulfate 25%Cu (7758-99-8)**

LD50 oral rat 480 mg/kg (OECD 401)

LD50 dermal rat > 2000 mg/kg (OECD 402)

LD50 dermal rabbit > 2000 mg/kg (Rabbit; Literature study; OECD 402: Acute Dermal Toxicity)

**Section 12. Ecotoxicological Information**

**Very toxic to aquatic life with long lasting effects.**

**Copper sulfate 25%Cu (7758-99-8)**

LC50 fish 1 0.0199 mg/l (96 h, anhydrous)

LC50 fish 2 0.17 mg/l (24 h, Salmo gairdneri/Oncorhynchus mykiss, anhydrous) EC50 Daphnia

1 0.01 mg/l (48 h, Daphnia magna, anhydrous)

Threshold limit algae 2 0.368 mg/l (ErC50; OECD 201: Alga, Growth Inhibition Test; 72 h;

Pseudokirchneriella subcapitata; Static system; Fresh water; Read-across)

<b>Persistence and degradability</b>	The metal ions which are the result of the degradation of this product cannot be degraded.
<b>Bioaccumulation</b>	Not applicable.
<b>Mobility in Soil</b>	Copper ions form a strong bond with the soil
<b>Other adverse effects</b>	Avoid release to the environment.

**Section 13. Disposal Considerations**

**Disposal methods:** Triple rinse and dispose of according to Local Regulations.

**Precautions or conditions to avoid:** Avoid release to the environment

**Section 14 Transport Information**

**This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2012**



**Road, Rail, Sea and Air Transport**

<b>UN No</b>	3077
<b>Class - Primary</b>	9
<b>Packing Group</b>	III
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S
<b>Marine Pollutant</b>	Yes
<b>Special Provisions</b>	If the product's individual container is below 5L/kg, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

**Section 15 Regulatory Information**

EPA Approval Code: **Fertilisers (subsidiary) – HSR002571**

<b>HSWA &amp; EPA Controls</b>	<b>Trigger Quantity</b>
Certified Handler	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	100kg

Emergency Response Plan	100kg
Secondary Containment	100kg
Restriction of Use	None

## Section 16 Other Information

### Glossary

Cat	Category
EC <sub>50</sub>	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
LC <sub>50</sub>	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD <sub>50</sub>	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

### References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

### Disclaimer

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Please contact the New Zealand distributor, if further information is required.

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