VETPAK SAFETY DATA SHEET

Section 1: Identification of the Substance or Mixture and of the Supplier

Product Name: **Copper Sulphate Pentahydrate**

Other names: Copper sulphate, Bluestone, Sulphuric Acid, Copper (2+) Salt (1:!), Pentahydrate.

Recommended Use: Used as an agricultural fungicide, bactericide, algaecide, herbicide, and feed and fertiliser additive.

Company Details: Vetpak Ltd.

Address: 249 Bruce Berquist Dr, Te Awamutu 3800.

Telephone Number: (07) 870 2024

Emergency Telephone Number: (0800) 764-766 24 hours. National Poisons Centre, Department of Preventative and Social Medicine, University of Otago, P O Box 913, Dunedin, New Zealand.
(07) 870 2024 Vetpak. 8.00am to 5.00pm Monday to Friday except public holidays.

Date of Preparation: 26th July 2019

Section 2: Hazards Identification

STATEMENT OF HAZARDOUS NATURE

This product is HAZARDOUS IN THIS FORM AND AT THIS STRENGTH.
Handle correctly and as directed by this SDS.

HAZARD LABELLING WARNING

HAZARD CLASSIFICATION AND STATEMENTS

HSNO	HSNO	GHS	Signal Word	GHS Hazard Statement
6.1D	Acute Toxicity (All)	Category 4	Warning	H302 H312 H332 Harmful if swallowed, in contact with skin, if inhaled
6.3A	Skin Irritation	Category 2	Warning	H315 Causes skin irritation
6.4A	Serious eye damage/ eye irritation	Category 2	Warning	H319 Causes serious eye irritation
6.5B	Contact sensitiser	Category 1	Warning	H317 May cause an allergic skin reaction
6.9B	Harmful to human target organs or systems	Category 2	Warning	H371; H373 May cause damage to liver and kidneys
9.1A	Aquatic toxicity	Category 1	Warning	H400 Very toxic to aquatic life
9.3C	Vertebrate toxicity	None	None	H433 Harmful to terrestrial vertebrates

Prevention Statements:
P102: Keep out of reach of children.
P103: Read label before use.
P260: Do not breathe mist/vapours/spray
P261: Avoid breathing dust
P264: Wash hands thoroughly after use.
P270: Do not eat, drink or smoke when handling this product.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves / clothing and eye / face protection.

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Section 3: Composition / Information on Ingredients:

COMPOSITION

Ingredient	CAS Number	% w/w	HAZARDOUS
Copper Sulphate Pentahydrate	7758-99-8	>98	Yes 6.1D; 6.3A; 6.4A; 6.5B; 6.9B; 9.1A; 9.3C

Section 4: First Aid Measures:

Description of necessary first Aid measures:

Swallowed: Rinse mouth, then drink plenty of water. Do NOT induce vomiting. Call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.

Skin: Remove contaminated clothing and shoes immediately. Flush skin and hair with running water for several minutes; Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.

Eye: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice - Obtain immediate medical care.

Inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Apply resuscitation if victim is not breathing. Administer oxygen if breathing is difficult.

First Aid Facilities: Ensure an eye bath and running water are available and ready for use.

Advice to Doctor: Treat symptomatically. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves. Administer Methylene Blue for methemoglobinemia, BAL, DMPS, EDTA and d-penicillamine. Jaundice and haemolysis can appear after 5-6 hours. Symptoms of liver failure can appear after 3-4 days.

Section 5: Fire Fighting Measures

Type of Hazard: Not flammable.

Fire Hazard Properties: The substance decomposes on heating producing toxic and corrosive fumes, including oxides of Copper and oxides of Sulfur.

Extinguishing Media & Methods: If material is involved in a fire, use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction. Use the most appropriate fire-extinguishing methods for the specific situation.

Recommended Protective Clothing: Fire fighters should wear a self-contained breathing apparatus and full protective clothing along with protective equipment.

Other: Contain runoff from fire control water, as the runoff may pollute waterways. Dispose of contaminated fire extinguishing water and fire residues according to local regulations.

Section 6: Accidental Release Methods

Procedures to be covered: Personnel involved in the clean-up should wear full protective clothing. Increase ventilation. Avoid generating dust. Do not allow product to reach drains, sewers or waterways. If the product does enter a waterway, advise your local government authority.

Methods and Materials for Containment and Clean Up: Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labeled container and hold for disposal.

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Section 7: Handling and Storage

Handling: Ensure an eye bath and wash room facilities are available and ready for use. Ensure adequate ventilation. Avoid dust generation. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling.

Storage: Store in a cool, dry, well-ventilated area out of direct sunlight. Keep labeled containers tightly sealed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect from physical damage.

Store away from incompatible/reactive materials including strong bases, hydroxylamine, magnesium, steel, (finely powdered) metals, sulfuric acid, caustics, ammonia, aliphatic amines, alkanolamines, amides, alkylene oxides, epichlorohydrin, organic anhydrides, isocyanates, vinyl acetate.

Section 8: Exposure Controls / Personal Protection

Workplace Exposure Standards: TWA 1mg/m^3.

Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Protective Equipment (PPE):

FACE: Approved respirator – filter type P (refer to AS/NZS 1715 & 1716);

EYES: Chemical goggles or safety glasses with side shields.

HANDS: Impervious protective gloves.

CLOTHING: Protective, long-sleeve, overalls with legs over the top of safety footwear.

General hygiene: Wash hands thoroughly after handling. Do not eat, drink or smoke while handling the product.

Section 9: Physical and Chemical Properties

Appearance (physical state, colour etc.): Solid, blue granules or powder

Odour: Odourless

pH: 3.5-4.5 (50g/L H2O 20ºC)

Melting Point/Freezing Point (ºC): 110/-

Boiling Point (ºC):

Flash Point (ºC):

Flammability: Not flammable

Lower Flammability/Explosive Limit:

Upper Flammability/Explosive Limit:

Auto-ignition Temperature (ºC):

Vapour Pressure:

Vapour Density:

Relative Density: 2.286g/cm3

Solubility in Water: 317g/L (20'C)

Specific Gravity: 2.29 (water = 1)

Viscosity:

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Section 10: Stability and Reactivity

Stability of the Substance: Stable under normal conditions of storage and temperature.

Conditions to avoid: Avoid dust formation.

Material to avoid: Incompatible/reactive with strong bases, hydroxylamine, magnesium, steel, (finely powdered) metals, sulfuric acid, caustics, ammonia, aliphatic amines, alkanolamines, amides, alkylene oxides, epichlorohydrin, organic anhydrides, isocyanates, vinyl acetate.

Hazardous decomposition products: Sulfur

Hazardous polymerization: Will not occur.

Section 11: Toxicological Information

Acute Effects:
Oral (rat) LD_{50}: 482 mg/kg
Dermal (rat) LD50: >2000 mg/kg

Swallowed: Corrosive on ingestion with abdominal pain, burning sensation, diarrhoea, nausea, vomiting, shock or collapse. May cause effects on the blood, kidneys and liver, resulting in hemolytic anemia, kidney impairment, liver impairment.

Eye: Causes serious eye damage, pain, redness, blurred vision.

Skin: May cause skin irritation, redness, pain.

Inhaled: Dusts/aerosols may be irritating to the respiratory tract, with cough, sore throat.

Chronic Effects: Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis.

Chronic Toxicity: Copper poisoning following long-term exposure to copper dusts and fume may result capillary, kidney, liver, lung and brain damage.

Irritation/Corrosion: Skin allergy and irritation

Carcinogenic Effects: Not listed as carcinogenic

Mutagenic Effects: Not suspected of causing genetic defects

Reproductive or developmental effects: May cause damage through prolonged dermal exposure

Section 12: Ecological Information

Potential Environmental Considerations: Very toxic to aquatic life with long-lasting effects.

Ecotoxicity in water:
Algae EC_{50} (96 h): 47-481 µg/litre
Daphnia magna LC_{50} (48-96 h): 7-54 µg/litre
Amphipods LC_{50} (48-96 h): 37-183 µg/litre

Chronic:

Phytotoxicity: No Data

Persistence and Degradability: High persistence in water/soil/air.

Mobility: Low mobility in soil.

Bioaccumulation: Not established.

BOD and COD: No Data

Products of Biodegradation: No Data

Toxicity of the Products of Biodegradation: No Data

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Section 13: Disposal Considerations

Disposal Information: Recycle product/packaging wherever possible or dispose of in an authorised landfill and in accordance with local/regional/national regulations.

Section 14: Transport Information

Hazard Class: 6.1D; 6.3A; 6.4A; 6.5B; 6.9B; 9.1A; 9.3C

UN Number: 3077

Packing Group: III

Hazchem Code: 2Z

Land Transport: Check regulations

Sea Transport: Check regulations

Air Transport: Check regulations

Other Information:

Section 15: Regulatory Information

HSNO Approval Number: HSR003126

HSNO Classifications:
6.1D (Acutely toxic)
6.3A (Irritating to the skin)
6.4A (Irritating to the eye)
6.5B (Contact Sensitiser)
6.9B (Harmful to human target organs or systems)
9.1A (Aquatic toxicity)
9.3C (Vertebrate toxicity)

Regulatory status:

Section 16: Other Information

Interpretation and Abbreviations
Controls applying to a substance:

- * denotes that changes have been made to these controls, further information on these changes is located in the transfer notice for that substance,
- (R) abbreviation for the term Regulation of the Hazardous Substances regulations

AICS – Australian Inventory of Chemical Substances
AOX – Absorbable organic halogens.
APF – Assigned Protection Factor.
BOD – Biochemical Oxygen Demand China
COD – Chemical Oxygen Demand
DSL – Canadian Domestic Substances List.
EINECS – European Inventory of Existing Commercial Chemical Substances.
ENCS – Japanese Existing and New Chemical substances.
IARC – International Agency for Research on Cancer.
IDLH – Immediately Dangerous to Life or Health Concentrations.

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ISHL – Japanese Industrial Safety and Health Law List of Chemicals.
LOEL – Lowest Observed Effect Level.
LD_{LO} – Lethal Dose Low (the lowest dosage per unit of bodyweight of a substance known to have resulted in fatality in a particular animal species).
MAK – Maximum workplace concentration in the workplace air that generally does not have known adverse effects on the health of the employee nor cause unreasonable annoyance when a person is repeatedly exposed during long periods, usually 8 hours daily, 40hour working week).
NOAA – National Oceanic and Atmospheric Administration.
NOEC – No Observed Effect Concentration.
NTP – National Toxicology Program.
NZIoC – New Zealand Inventory of Chemicals.
OECD HPV – The Organisation for Economic Co-operation and Development High Product Volume Chemicals.
PEL – Permissible exposure limit.
PPE – Personal Protective Equipment.
Prop 65 – California Proposition 65 List of Chemicals.
RTECS – Registry of Toxic Effects of Chemical substances
STEL – Short term exposure limit.
TOC – Total Organic Carbon.
TSCA – US Toxic Substances Control Act Existing Chemicals.
TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.
VOC – Volatile Organic Compounds.

Date of Preparation/Review: 26 July 2019

Sources of key data used to compile the datasheet:
Manufacturers SDS
NZ EPA CCID
Health and Safety at Work (Hazardous Substances) Regulations 2017
Hazardous Substances (Minimum Degrees of Hazard) Notice 2017
Hazardous Substances (Safety Data Sheets Notice 2017
Hazardous Substances (Classification) Notice 2017
Labelling of Hazardous Substances Technical Guide 2012

DISCLAIMER
The information contained in this safety data sheet was obtained from current and reliable sources. This data is supplied without warranty, expressed or implied, regarding its correctness and accuracy. It is the user's responsibility to determine safe conditions for use of this product and to assume liability for loss, injury, damage or expense resulting from improper use of this product.

END OF SDS

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