1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name:	**Copper Sulphate**
Other Identifier:	Copper sulphate (II), pentahydrate
Recommended Use:	Water treatment
Supplier: **ABN:**	Big Bubble 51 290 656 636
Street Address:	18 Elliott Street Midvale Western Australia
Telephone Number:	+61 08 9274 1992
Poisons Information Centre:	**131 126 Australia**

2. HAZARDS IDENTIFICATION

Road and Rail; Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

Globally Harmonised System

Hazard Classification
Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories	Serious eye damage / irritation – Category 1 Aquatic hazard (Acute) – Category 1 Aquatic hazard (Chronic) – Category 1 Acute toxicity (Oral) – Category 4

Pictogram

Name of pictogram	Corrosion, Exclamation Mark, Environment
Signal Word	**Danger**

Hazard Statements	**H302** Harmful if swallowed. **H318** Causes serious eye damage. **H410** Very toxic to aquatic life with long lasting effects.
Precautionary Statement	
Prevention	**P270** Do not eat, drink, or smoke when using this product **P273** Avoid release to the environment. **P280** Wear eye protection / face protection.
Response	**P301 + P312** IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell. **P305 + P351 + P338 + P310** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/doctor. **P330** Rinse mouth. **P391** Collect spillage.
Disposal	**P501** Dispose of contents / container in accordance with local / regional / national / international regulations.
Poisons Schedule:	Schedule 6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion
Copper sulphate, pentahydrate	7758-99-8	>=98 – 100 %

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor at once.

Ingestion:	IF 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.
Eye Contact:	IF IN EYES: 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 flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice.
Skin Contact:	IF ON SKIN (or hair): Remove and isolate contaminated clothing and shoes. Immediately wash skin and hair with plenty of soap and running water. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
Inhalation:	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for beathing. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.

Medical attention and special treatment:	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 3-4 days.

5. FIRE FIGHTING MEASURES

General	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Dike fire-control water for later disposal.
Flammability Conditions	Non-combustible; Material does not burn.
Suitable Extinguishing Media:	If material is involved in a fire, use dry chemical, Carbon Dioxide (CO_2), foam or water spray for extinction. Use the most suitable extinguishing media for the specific situation, evaluating their compatibility with the possible presence of other substances at the fire site. Do not scatter spilled material with high-pressure water streams.
Fire and Explosion Hazards	The substance decomposes on heating producing toxic and corrosive fumes.
Hazardous combustion products:	The substance decomposes on heating producing toxic and corrosive fumes, including Sulfur Oxides.
Precautions for fire fighters and special protective equipment:	Contain runoff from fire control water – Runoff may pollute waterways. Dispose of contaminated fire extinguishing water and fire residues according to local regulations. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Auto Ignition temperature:	No Data Available
Decomposition Temperature:	No Data Available
Flammability:	No Data Available
Flash Point:	No Data Available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid dust formation. Avoid breathing dust and contact with eyes, skin, and clothing.
Protective equipment:	Use personal protective equipment as required (see SECTION 8).
Emergency procedures:	Spill or leak should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.

Environmental Precautions:	Spillages and decontamination runoff should be prevented from entering drains and watercourses. If environmental contamination has occurred advise local emergency services.
Methods and materials for Containment and clean up:	Stop leak if safe to do so – Prevent entry into waterways, drains, or confined areas. Prevent dust cloud. Cover powder spill with plastic sheet or tarp to minimise spreading. With clean shovel, place material into clean, dry container and cover loosely; move containers from spill area. Deliver for disposal in compliance with the regulations in force (see SECTION 13).

7. HANDLING AND STORAGE

This material must be stored, maintained and used in accordance with the relevant regulations.

Conditions for safe storage:	Keep only in correctly labelled original containers or containers suitable for the type of product. Store in a cool, dry, well-ventilated place, out of direct sunlight. Keep container tightly closed when not in use – Protect against physical damage and check regularly for spills. Avoid exposure to air/moisture/humidity. Keep away from foodstuffs and incompatible materials (see SECTION 10).
Precautions for safe handling:	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation. Avoid breathing dust and contact with eyes, skin, and clothing. Do not ingest. Use personal protective clothing as required (see SECTION 8). Avoid release to the environment – Collect spillage (see SECTION 6).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure control measures:	No specific exposure standards are available for this product. Safe Work Australia Exposure Standard for Copper, dusts, and mists: TWA = 1 mg/m^3
Biological Monitoring	Predicted no-effect concentrations (PNECs): - Freshwater: 7.8 µg/L - Marine water: 5.2 µg/L - Freshwater sediment: 87 mg/kg dw - Marine water sediment: 676 mg/kg dw - Soil: 288 mg/kg dw - STP: 230 µg/L
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. Ensure ventilation is adequate and that air concentrations of components are controlled below Workplace Exposure Standards.

Personal Protective Equipment	
Eye and Face	Wear appropriate eye protection to prevent eye contact. Recommended: Chemical goggles; Face-shield for operations that cause splashing or spray mist.
Skin	Handle with gloves. Recommended: Impervious gloves. Wear appropriate personal protective clothing to avoid skin contact. Recommended: Long-sleeved work clothes or overalls, safety shoes.
Respiratory	Wear respiratory protection in case of inadequate ventilation or if an inhalation risk exists. Recommended: Dust mask/respirator, with P filter, whose class (1,2, or 3) must be chosen in relation to the limit concentration of use (refer to AS/NZS 1715 & 1716).

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Solid
Colour:	Blue or light blue
Odour:	Odourless
pH:	No data available
Solubility:	22 g/100 mL water 25˚C
Auto Ignition temperature:	No Data Available
Decomposition Temperature:	>= 110˚C
Evaporation Rate:	No Data Available
Flammability:	No Data Available
Flash Point:	No Data Available
Boiling Point:	No Data Available
Melting/Freezing Point:	No Data Available
Freezing Point	No Data Available
Odour Threshold:	No Data Available
Partition coefficient: n-octanol/water	No Data Available
Relative Density:	No Data Available
Upper Flammibility Limit	No Data Available
Lower Flammability Limit:	No Data Available
Explosive limits:	No Data Available

Vapour density:	No Data Available
Vapour pressure;	No Data Available
Viscosity:	No Data Available
Biopersistence:	No Data Available
Crystallinity:	No Data Available
Dustiness:	No Data Available
Particle size:	No Data Available
Redox potential:	No Data Available
Release of invisible flammable vapours and gases	No Data Available
Saturated Vapour Concentration	No Data Available

10. STABILITY AND REACTIVITY

Chemical stability:	Stable under recommended storage conditions.
Conditions to avoid:	Avoid dust formation. Avoid exposure to air.
Incompatible materials:	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:	The substance decomposes on heating producing toxic and corrosive fumes, including Sulfur oxides.
Hazardous reactions or Polymerisation:	Will not occur.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion:	Harmful if swallowed; Corrosive on ingestion with abdominal pain, burning sensation, diarrhoea, nausea, vomiting, shock, or collapse.

Eye contact:	Causes serious eye damage, pain, redness, blurred vision. Serious irritation/irreversible eye damage (Rabbit) [OECD Guideline 405].
Skin contact:	May cause skin irritation, redness, pain. Non-irritating (Rabbit) [OECD Guideline 404].
Inhalation:	Inhalation of dusts/aerosols may be irritating to the respiratory tract, with cough, sore throat. Lungs may be affected by repeated or prolonged exposure to the aerosol.
Acute Toxicity:	LD50, Rat (Oral): 482 mg/kg bw [OECD Guideline 401] LD50, Rat (Dermal): >2,000 mg/kg [OECD Guideline 402]
Carcinogenity:	Not expected to be carcinogenic.
Mutagenicity:	Not expected to be mutagenic.
Reproductive:	Reproductive toxicity (Oral): NOAEL, Rat: >1,500 ppm [OECD Guidelines 416]

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Very toxic to aquatic life with long lasting effects.
Persistence and degradability:	High persistence in water/soil; High persistence in air.
Bioaccumulative potential:	Low bioaccumulative potential (logKOW: -2.2002).
Mobility:	Low mobility in soil (KOC: 6.124).

13. DISPOSAL CONSIDERATIONS

Disposal methods:	Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility. Or refilled at Big Bubble in Midvale.

14. TRANSPORT INFORMATION

Road and Rail Transport
Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

Marine Transport
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN number:	3077
Proper shipping name;	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper sulphate, pentahydrate)

DG Class:	9, Miscellaneous Dangerous Goods and Articles
Packing group:	III
Environmental hazards for transport purposes:	Marine pollutant
Hazchem:	2Z

Air Transport
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN number:	3077
Proper shipping name;	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper sulphate, pentahydrate)
DG Class:	9, Miscellaneous Dangerous Goods and Articles
Packing group:	III
Hazchem:	2Z

15. REGULATORY INFORMATION

General Information: COPPER SULFATE

Poisons Schedule: Schedule 6

16. OTHER INFORMATION

Revision date: 26/06/2025
Reason for issue: Update SDS
Key/Legend:
< Less Than
> Greater Than
AICS Australian Inventory of Chemical Substances
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm2 Square Centimetres
CO2 Carbon Dioxide
COD Chemical Oxygen Demand
deg C (**°C**) Degrees Celcius
g Grams
g/cm3 Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury

inH2O Inch of Water
K Kelvin
kg Kilogram
kg/m3 Kilograms per Cubic Metre
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or **L** Litre
m3 Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m3 Milligrams per Cubic Metre
Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre mmH2O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight

This material safety data sheet has been prepared by Midland Chemicals

This MSDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. No liability is accepted whether direct or indirect from its application since the conditions of final use are outside Midland Chemicals control. The end user is obliged to conform to relevant government regulations and/or patent laws applicable in their respective States of Countries.