



Copper Sulfate Solution

SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier	Copper Sulfate Solution
Other means of identification	None assigned
Recommended use of the chemical	Liquid trace-element fertiliser for crop production.
Restrictions on Use	Use only for the intended application.
Details of Australian manufacturer or importer	Australian manufacturer / importer: Wilchem Pty Ltd ABN: 44 614 126 573 Address: 39 Jonal Drive, Cavan, SA 5094 AUSTRALIA Telephone: 08 8359 6855 Email: admin@wilchem.com.au Website: www.wilchem.com.au
Emergency phone number	Poisons Information Centre: 13 11 26 , (Australia, 24 hours)

2. HAZARDS IDENTIFICATION

Classification of the hazardous chemical

Classified as a hazardous chemical in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals, 7th Revised Edition (GHS 7), as adopted under Australian WHS legislation.

Hazard class	Skin corrosion/irritation, Category 2 Serious eye damage/eye irritation, Category 2 Acute hazard to the aquatic environment, Category 1 Long-term hazard to the aquatic environment, Category 2
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Signal word WARNING

Hazard pictograms



Hazard statements

Causes skin irritation.
Causes serious eye irritation.
Very toxic to aquatic life.

Prevention statements

Toxic to aquatic life with long lasting effects.
Wash hands, face and exposed skin thoroughly after handling.
Avoid release to the environment.
Wear protective gloves/protective clothing including eye protection/face protection.

Response statements	Avoid breathing spray mist or aerosol.
	IF ON SKIN: Wash with plenty of water and soap.
	If skin irritation occurs: Get medical attention.
	Take off contaminated clothing and wash it before reuse.
	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Disposal statements	If eye irritation persists: Get medical attention.
	Collect spillage.
	Dispose of contents/container in accordance with local/regional/national regulations.
Other hazards which do not result in classification	Spray mist or aerosol may irritate the respiratory tract. Copper sulphate solutions may be corrosive to some metals.

DANGEROUS GOODS STATEMENT

Meets the underlying classification criteria for UN 3082 — ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (COPPER SULPHATE), Class 9, Packing Group III.

For Australian road and rail transport, Special Provision AU01 of the Australian Dangerous Goods Code (ADG Code), Edition 7.9, applies. When transported in packagings that do not incorporate a receptacle exceeding 500 kg(L), or in IBCs, the product is **not** subject to the requirements of the ADG Code.

Where the conditions of Special Provision AU01 are not met, the product is transported as UN 3082, Class 9, Packing Group III.

Refer to Section 14 for further information.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Identity	CAS No.	Concentration or concentration range (% w/w)
Copper sulphate	7758-98-7	10 - 20
Ingredients determined not to be hazardous or present below disclosure thresholds, including water	-	to 100

4. FIRST AID MEASURES

Description of necessary first aid measures

Inhalation	Remove to fresh air. Keep at rest. Obtain medical advice if ill-effects occur or persist.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. Obtain medical advice if irritation develops. Wash clothing before reuse.
Eye contact	Immediately rinse cautiously with clean water for at least 15 minutes, holding eyelids open. Remove contact lenses if easy to do. Continue rinsing. Get medical attention if irritation persists.
Ingestion	Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious person. If a significant quantity has been swallowed, or if

symptoms develop, contact a POISONS INFORMATION CENTRE or doctor. Treat symptomatically..

First aid facilities

Provide eyewash and access to running water.

Symptoms and effects caused by exposure, including acute and delayed effects

Severe eye irritation may occur. Ingestion may cause gastrointestinal upset.

Indication of immediate medical attention and special treatment needed

Treat symptomatically.

5. FIREFIGHTING MEASURES**Extinguishing media**

Product is water-based and not combustible. Use media appropriate to surrounding fire.

Specific hazards arising from the chemical, including hazardous combustion products

Heating to dryness or fire may produce sulphur oxides and metal oxides. Containers may rupture when heated.

Special protective equipment and precautions for fire fighters

Evacuate area and contact emergency services. Toxic gases may be present in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combatting fire. Use water fog or spray to cool intact containers and nearby storage areas. Prevent contaminated fire water entering drains and waterways.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Isolate area. Avoid eye/skin contact and mist inhalation. Wear gloves, protective clothing and chemical splash goggles/face shield. Ensure ventilation.

Environmental precautions

Prevent entry to drains, soil and waterways. Notify the appropriate authority if significant contamination occurs.

Methods and materials for containment and clean up

Small spills: Contain and absorb with sand, earth or other suitable inert absorbent material. Recover where practicable and place residues in a suitable labelled container for disposal. Wash the contaminated area with the minimum quantity of water necessary and collect washings for appropriate disposal. Do not allow product or wash water to enter drains, soil or waterways..

Large spills: Stop leak if safe to do so. Bund with sand, earth or other inert absorbent material. Recover and recycle liquid where practicable. Absorb residue and place in labelled containers for disposal. Do not wash concentrated product to drain. Wash the area with minimal water and collect washings.

7. HANDLING AND STORAGE**Precautions for safe handling**

Read all Safety Information, including Directions for Use on the label. Avoid contact and generation of aerosols. Do not eat, drink or smoke while handling. Wash thoroughly after use. Do not mix with other agricultural chemicals unless compatibility has been established.

Conditions for safe storage, including any incompatibilities

Store in the closed original container in a cool, dry, well-ventilated, bunded area. Protect from heat, freezing and direct sunlight. Segregate from alkalis, reducing agents, food and animal feed.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Workplace exposure standards / limits

No product-specific Australian workplace exposure standard / limit has been assigned to this product. The following Australian workplace exposure standards / limits apply to copper and its compounds.

Copper, dusts and mists (as Cu):

TWA: 1 mg/m³

Copper fume (as Cu):

TWA: 0.2 mg/m³

The exposure limits are expressed as elemental copper (Cu).

Until 30 November 2026 these values apply as Workplace Exposure Standards (WES). From 1 December 2026 they apply as Workplace Exposure Limits (WEL).

This product is an aqueous solution and does not generate dust or fume under normal conditions of use. Airborne exposure may occur where spray mist or aerosol is generated.

TWA = Time Weighted Average.

Biological monitoring

No specific Australian biological exposure limit has been established for this product. Where workplace risk assessment indicates significant or repeated exposure to copper-containing mist or aerosol, appropriate occupational health advice should be obtained.

Engineering controls

Use in well-ventilated areas. Avoid generation of spray mist or aerosol.

Where copper-containing mist or aerosol may be generated, use suitable process enclosure, local exhaust ventilation or other engineering controls to maintain airborne copper concentrations below the applicable workplace exposure standard or workplace exposure limit.

Air monitoring should be considered where significant aerosol or mist exposure may occur or where adequate control of airborne exposure cannot otherwise be demonstrated.

Personal Protective Equipment (PPE)

Eye and face protection

Splash-proof chemical goggles (AS 1336 / 1337). Where significant splashing is possible, wear a face shield in addition to chemical splash goggles.

Skin protection

Wear chemically resistant protective gloves. Suitable materials may include nitrile, PVC or rubber. Glove selection should take account of the task, duration of contact and the glove manufacturer's chemical-resistance information. Elbow-length gloves are recommended where significant contact or splashing may occur. Protective gloves should be selected and used in accordance with AS/NZS 2161.

Body protection

Wear suitable protective clothing including long sleeves, long trousers and safety footwear. Where significant splashing is possible, wear chemically resistant protective clothing or apron as appropriate.

Respiratory protection

Respiratory protection is not normally required where the product is handled as a liquid without generation of mist or aerosol and adequate ventilation is provided.

Where spray mist or aerosol may be generated, wear a correctly fitted respirator incorporating a suitable particulate filter, for example a P2 filter.

Respiratory protective equipment must be selected, fitted, used and maintained in accordance with AS/NZS 1715 and AS/NZS 1716.

Thermal hazards None identified.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Colour	Blue
Odour	None
Melting point / freezing point	< 0°C
Boiling point	>100°C
Flammability	Nonflammable aqueous mixture
pH (neat)	2 to 4
Solubility	Soluble in water
Vapour pressure	As for water
Density and /or relative density	Approximately 1.16 @ 20°C

10. STABILITY AND REACTIVITY

Reactivity

No specific hazardous reactions are known under normal conditions of use. Copper sulphate solutions may react with strong reducing agents and reactive metals.

Chemical stability

Stable under recommended conditions of storage and handling.

Possibility of hazardous reactions

No hazardous reactions under normal conditions of storage and handling. Contact with incompatible materials may cause chemical reaction or corrosion of metals.

Conditions to avoid

Avoid prolonged storage below 0°C. Keep away from heat (>40°C) and out of direct sunlight.

Incompatible materials

Strong alkalis, strong reducing agents and reactive or finely divided metals. Copper sulphate solutions may attack metals including iron, zinc, aluminium and magnesium.

Hazardous decomposition products

Strong heating, particularly after evaporation to dryness, may produce sulphur oxides and copper oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation:	Spray mist or aerosol may irritate the nose, throat and upper respiratory tract.
Skin contact:	Causes skin irritation. Repeated or prolonged contact may increase the severity of irritation.
Ingestion:	May cause nausea, vomiting, abdominal discomfort and gastrointestinal irritation.

Eye contact:	Causes serious eye irritation. Contact may cause pain, redness, watering and discomfort.
Chronic effects:	The finished product is not classified for specific target organ toxicity following repeated exposure, carcinogenicity, mutagenicity or reproductive toxicity. Repeated or prolonged exposure to spray mist or aerosol should nevertheless be avoided.

Symptoms related to the physical, chemical and toxicological characteristics

Skin exposure may cause redness, discomfort or irritation.

Eye exposure may cause stinging, redness, watering and irritation.

Inhalation of spray mist or aerosol may cause coughing and irritation of the nose, throat and upper respiratory tract.

Ingestion may cause nausea, vomiting, abdominal discomfort and gastrointestinal irritation.

Immediate and delayed effects

Skin and eye irritation may occur following direct contact. Respiratory irritation may occur following inhalation of spray mist or aerosol. Gastrointestinal symptoms may occur following ingestion.

No specific delayed effects are expected from normal handling of the product when appropriate exposure controls are used.

Numerical measures of toxicity

Anhydrous copper sulphate: oral LD₅₀ (rat): approximately 482 mg/kg body weight.

Based on the disclosed copper sulphate concentration range, the estimated acute toxicity of the finished mixture is above the GHS Category 4 oral toxicity cut-off. The finished product is therefore not classified for acute oral toxicity.

Toxicological endpoint information

Acute toxicity	Not classified.
Skin corrosion / irritation	Skin irritation, Category 2. Causes skin irritation.
Serious eye damage / irritation	Eye irritation, Category 2. Causes serious eye irritation.
Respiratory sensitisation	Not classified.
Skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified.
Specific Target Organ Toxicity (STOT)– single exposure	Not classified
Specific Target Organ Toxicity (STOT) – repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Medical conditions aggravated by exposure	Pre-existing skin, eye or respiratory conditions may be aggravated by exposure to the product.
Additional information	Toxicological test data are not available for the finished product unless otherwise stated. The health hazard assessment has been derived from available information on the ingredients and the applicable GHS 7 mixture-classification criteria.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Finished-product ecotoxicity test data are not available. The environmental classification has been derived from the copper sulphate content using the applicable GHS 7 mixture-classification criteria.

Avoid release to the environment.

Persistence and Degradability

Inorganic metal ions do not biodegrade. Dissolved copper may undergo precipitation, complexation, adsorption and other transformations in the environment.

Bioaccumulative Potential

Copper is an essential trace element but may accumulate in aquatic organisms. Bioavailability and accumulation depend strongly on water chemistry, including pH, hardness, dissolved organic matter and other environmental conditions.

Mobility in Soil

The product is water soluble. Dissolved copper may be mobile initially but can subsequently bind strongly to soils, sediments and organic matter or precipitate depending on environmental conditions.

Other Adverse Effects

Copper release may harm aquatic organisms and aquatic ecosystems. Avoid uncontrolled release.

13. DISPOSAL CONSIDERATIONS**Disposal Methods**

Recover or recycle the product where practicable. Dispose of residues, contaminated absorbents and packaging through a licensed waste contractor in accordance with applicable Commonwealth, state, territory and local requirements. Do not discharge concentrated product to stormwater, surface waters or soil. Empty containers may retain product residues and should be handled accordingly.

14. TRANSPORT INFORMATION**ROAD AND RAIL TRANSPORT**

The product meets the classification criteria for an environmentally hazardous substance, liquid, N.O.S., Class 9.

Under Special Provision AU01 of the Australian Code for the Transport of Dangerous Goods by Road & Rail, Edition 7.9 (ADG Code), environmentally hazardous substances meeting the description of UN 3082 are not subject to the ADG Code when transported by road or rail in:

- (a) packagings that do not incorporate a receptacle exceeding 500 kg(L); or
- (b) IBCs.

Where the conditions of Special Provision AU01 are **not** met, the following transport classification applies.

UN number	UN 3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (COPPER SULPHATE)
Transport hazard class	Class 9
Packing group	III
Subsidiary risk(s)	None.

Environmental hazards for transport purposes	Environmentally hazardous substance.
Special precautions for user	Avoid release to the environment. Prevent product entering drains and waterways. Refer to Sections 6, 7 and 8 of this Safety Data Sheet.
Additional information	ADG Special Provision AU01 applies to Australian road and rail transport only. It does not apply to international transport or to air or sea transport within Australia. For road and rail transport in packagings satisfying Special Provision AU01, or in IBCs, the product is not subject to the requirements of the ADG Code.
Hazchem code	•3Z

15. REGULATORY INFORMATION

International conventions and agreements:

No specific international convention applicable to the product has been identified.

Safety, health and environmental regulations

Poisons scheduling: Not scheduled under the current Australian Poisons Standard.

16. OTHER INFORMATION

This Safety Data Sheet has been prepared in accordance with the Safe Work Australia Model Code of Practice: Preparation of Safety Data Sheets for Hazardous Chemicals and the Globally Harmonized System of Classification and Labelling of Chemicals, Seventh Revised Edition (GHS 7), as adopted under Australian work health and safety legislation.

Date of preparation	7 September 2026
Supersedes SDS dated	September 2024
Revision number	1
Disclaimer	The information in this SDS is based on information reasonably available to the Australian manufacturer or importer at the date of preparation or review. It describes the product in relation to workplace health and safety requirements and is not a product specification or warranty of performance. The product should be used only for the applications identified in Section 1 and in accordance with the information in this SDS. Users remain responsible for assessing workplace risks arising from their particular use conditions and for complying with applicable legislation.

End of Report