



PRICE CHEMICALS PTY LIMITED

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MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

Revision Date JULY 2011

Product Name COPPER SULPHATE SOLUTION

Other Names No data available.

Uses Agriculture (soil additive, pesticides, Bordeaux mixture), feed additive, germicides, textile mordant, leather industry, pigments, electric batteries, electroplated coatings, copper salts, reagent in analytical chemistry, medicine, wood preservative, preservation of pulp wood and ground pulp, process engraving and lithography, ore floatation, petroleum industry, synthetic rubber, steel manufacture, treatment of natural asphalts. The anhydrous salt is used as a dehydrating agent.

Contact Information

Organisation	Location	Telephone	Ask For
Price Chemicals Pty Ltd	10 Pile Rd Somersby NSW 2250 Australia	+61 2 43400088	Technical Officer
Poison Information Centre	Westmead NSW Australia	131126	
Chemcall 24 Hour Emergency Number	Australia New Zealand	1800-127406 0800-243622	
National Poisons Centre	New Zealand	0800-764766	

2. HAZARD IDENTIFICATION

Hazardous according to criteria of NOHSC/ASCC.HARMFUL

Risk Phrases

- R22 Harmful if swallowed.
R36/38 Irritating to eyes and skin.

Safety Phrases

- S2 Keep out of reach of children.

ERMA New Zealand Approval Code

HSNO Hazard Classification

No data available.

This Material Safety Data Sheet may not provide exhaustive guidance for all HSNO Controls assigned to this substance. The ERMA Web Site should be consulted for a full list of triggered controls and cited regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	CAS Number	Proportions (%)
COPPER SULPHATE PENTAHYDRATE	[7758-99-8]	30 - 40
WATER	[7732-18-5]	60 - 70

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure.

Swallowed Induce vomiting. Give 2-4 cupfuls of water or milk provided victim is conscious. Seek medical advice immediately.

Eye Immediately flush eyes with plenty of water holding eyelids open. Seek medical advice immediately.

Skin Remove contaminated clothing. Wash affected area with soap and plenty of water. If irritation develops, seek medical advice.

Inhaled Remove victim from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.

Advice to Doctor Treat symptomatically based on individual reactions of patient and judgement of doctor. Penicillamine may be of value as a chelating agent.

Aggravated medical conditions caused by exposure Repeated exposure to liquid and fumes can damage the liver and/or lungs. It can also cause copper to deposit in the skin and hair, leaving a green colour. Metallic taste may also occur in the mouth. Repeated exposure can cause shrinking of the lining of the inner nose, with a watery discharge, or thickening of the skin. Exposure may also cause skin allergy or dermatitis. If allergy develops, even low future exposures may trigger a rash. Very irritating substances may effect the lungs. It is not known whether copper sulphate causes lung damage. Prolonged or repeated eye contact may cause conjunctivitis. This substance had adverse reproductive and foetal effects in animals. Copper is an essential element and its level in the body is strictly controlled. Under most conditions, excess copper is excreted in the urine and faeces.

5. FIRE FIGHTING MEASURES

Extinguishing Media In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions. apparatus. Closed containers exposed to heat may explode. When heated to decomposition toxic fumes of sulphur dioxide are produced.

Hazards from Combustion Products Non-combustible liquid. Closed containers exposed to heat may explode. Incompatible with acetylene gas, aluminium powder, hydroxylamine, magnesium, moist air and sources of ignition. Hazardous decomposition products include oxides of sulphur and oxides of copper.

Special Protective Precautions and Equipment for Fire Fighters Fire fighters should wear a self contained breathing apparatus and full protective clothing along with protective equipment.

Flammability Conditions Product is a non-flammable liquid. Additional Information

Hazchem Code N/A

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures Personnel involved in the clean up should wear full protective clothing. Evacuate all unnecessary personnel. Eliminate all sources of ignition. Increase ventilation. Avoid walking through spilled product as it may be slippery. Stop leak if safe to do so. Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management. Use clean, non-sparking tools and equipment.

Methods and Materials for Containment and Clean Up Soak up spilled product using absorbent non-combustible material such as sand or soil. Avoid using sawdust or cellulose. When saturated, collect material into suitable, labelled, dry, sealable containers and hold for safe disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment.

Conditions for Safe Storage (Including Any Incompatibles) Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials including acetylene gas, aluminium powder, hydroxylamine, magnesium, moist air and sources of ignition. Protect from direct sunlight, moisture and static discharges. This product is not classified dangerous for transport according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.

Container Type Packaging must comply with requirements of Hazardous Substances (Packaging) Regulations 2001. Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards Worksafe Australia recommends the following exposure limits : Copper, dusts and mists (as Cu) : TWA = 1 mg/m³ Copper (fume) : TWA = 0.2 mg/m³

Biological Limit Values No information available on biological limits for this product.

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 Protection RESPIRATOR: Wear an approved respirator where vapours are generated and engineering controls are inadequate (EN141). EYES: Safety glasses with side shields (EN166). HANDS: Wear natural rubber gloves (EN374). CLOTHING: Long-sleeved protective clothing and safety footwear (EN465).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance clear, blue liquid

Formula CuSO₄.5H₂O

Odour No data available.

Vapour Pressure Not applicable.

Vapour Density Not applicable.

Boiling Point 150 deg C

Melting Point 110 deg C

Solubility in Water 100

Specific Gravity 2.28 (Water = 1)

Flash Point Not applicable.

pH 4 (0.2M soln)

Lower Explosion Limit Not applicable.

Upper Explosion Limit Not applicable.

Ignition Temperature Not applicable.

Specific Heat Value Not applicable.

Particle Size Not applicable.

Volatile Organic Compounds (VOC) Content Not applicable.

Evaporation Rate Not applicable.

Viscosity Not applicable.

Percent Volatile Not applicable.

Octanol/Water partition coefficient Not applicable.

Saturated Vapour Concentration Not applicable.

Additional Characteristics Not applicable.

Flame Propagation/Burning Rate of Solid Materials Not applicable.

Properties of Materials That May Initiate or Contribute to Fire Intensity Not applicable.

Potential for Dust Explosion Product is a liquid.

Reactions that Release Flammable Gases Not applicable.

Fast of Intensely Burning Characteristics Not applicable.

Non-flammables That Could Contribute Unusual Hazards to a Fire Not applicable.

Release of Invisible Flammable Vapours and Gases No data available.

Decomposition Temperature No data available.

Additional Information Solubility: Soluble in water and methanol. Slightly soluble in glycerol and alcohol.

10. STABILITY AND REACTIVITY

Chemical Stability Product is stable under normal conditions of use, storage and temperature.

Conditions to Avoid Avoid excessive heat, direct sunlight, static discharges, moisture and high temperatures.

Incompatible Materials Incompatible with acetylene gas, aluminium powder, hydroxylamine, magnesium, moist air and sources of ignition.

Hazardous Decomposition Products Product may emit oxides of sulphur and oxides of copper.

Hazardous Reactions Hazardous polymerization has not been reported.

11. TOXICOLOGICAL INFORMATION

Toxicity Data Oral LD50 = 300 mg/kg (rat); 60 mg/kg (dog) Oral LDLo = 1088 mg/kg (human); 60 mg/kg (dog) Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP or OSHA.

Health Effects – Acute

Swallowed Metallic taste in mouth. Burning sensation in throat and vomiting are typical effects. More severe poisoning causes irritation in digestive tract with abdominal pain, nausea, vomiting, ulceration and diarrhoea. May cause haemorrhaging of the digestive tract. Can be fatal.

Eye May cause eye irritation and local inflammation, tissue destruction, corneal opacity and adhesion of the eyelid to the eye. May also cause conjunctivitis and ulcerations. Traces of sulphuric acid impurity may contribute to these effects.

Skin May cause skin irritation and discolouration of the skin.

Inhaled Copper solution can cause irritation of the nasal passages and throat. Ulceration and perforation of the nasal septum is possible if inhaled in excessive quantities. These effects may be due to traces of sulphuric acid impurities.

12. ECOLOGICAL INFORMATION

Ecotoxicity No ecological information available for this product.

Persistence and Degradability No information available on persistence/degradability for this product.

Mobility No information available on mobility for this product.

Environmental Fate (Exposure) Avoid contaminating waterways, drains and sewers.

Bioaccumulative Potential No information available on bioaccumulation for this product.

13. DISPOSAL CONSIDERATIONS

Disposal Dispose of in accordance with all local, state and federal regulations.

Special Precautions for Land Fill or Incineration The waste code classification is to be carried out according to the European Waste Catalogue (EWC) specifically for each branch of industry and each type of process.

14. TRANSPORT INFORMATION

Land Transport (Australia)

Regulation Name ADG Code

UN Number Not applicable.

Shipping Name COPPER SULPHATE SOLUTION

Dangerous Goods Class Not applicable.

Subsidiary Risk Not applicable.

Pack Group Not applicable.

Precaution for User HARMFUL

Hazchem Code N/A

EPG Not applicable.

Special Provision Not applicable.

Land Transport (New Zealand)

Regulation Name NZS5433

UN Number Not applicable.

Shipping Name COPPER SULPHATE SOLUTION

Dangerous Goods Class Not applicable.

Subsidiary Risk Not applicable.

Pack Group Not applicable.

Precaution for User HARMFUL

Hazchem Code N/A

EPG Not applicable.

Special Provision Not applicable.

Sea Transport

Regulation Name IMDG Code

UN Number No data available.

Shipping Name No data available.

Dangerous Goods Class No data available.

Subsidiary Risk No data available.

Pack Group No data available.

Precaution for User HARMFUL

Hazchem Code No data available.

EPG No data available.

Special Provision Not applicable.

15. REGULATORY INFORMATION

No data available.

Poisons Schedule 5

EPG N/A

AICS Name SULFURIC ACID, COPPER(2+)SALT(1:1), PENTAHYDRATE

NZ Toxic Substance 4

HSNO Hazard Classification No data available.

ERMA Approval Code No data available.

16. OTHER INFORMATION

Literature References No data available.

Sources for Data No data available.

Legend to Abbreviations and Acronyms

< less than

> greater than

ADG Australian Dangerous Goods Code

AICS Australian Inventory of Chemical Substances

CAS Chemical Abstracts Service (Registry Number)

cm² square centimetres

CO₂ Carbon Dioxide

COD Chemical Oxygen Demand

deg C (°C) degrees Celsius

ERMA Environmental Risk Management Authority

g gram

g/cm³ grams per cubic centimetre

g/l grams per litre

HSNO Hazardous Substance and New Organism

IATA International Air Transport Association Dangerous Goods Regulations

IDLH Immediately Dangerous to Life and Health

IMDG International Maritime Dangerous Goods Code

immiscible liquids are insoluble in each other

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 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 miscible

miscible liquids form one homogeneous liquid phase regardless of the amount of either component present

mm millimetre

mPa.s milli Pascal per second

N/A Not Applicable

NOHSC National Occupational Health and Safety Commission

OECD Organization for Economic Co-operation and Development

PEL Permissible Exposure Limit

ppb parts per billion

ppm parts per million

ppm/2h parts per million per 2 hours

ppm/6h parts per million per 6 hours

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 (number)

wt weight

This MSDS summarises Price Chemicals Pty Ltd best knowledge of the health and safety hazard information of the selected substance and how to safely handle the selected substance in the workplace however Price Chemicals Pty Ltd expressly disclaims that the MSDS is a representation or guarantee of the chemical specifications for the substance.

Each user should read the MSDS and consider the information in the context of how the selected substance will be handled and used in the workplace including its use in conjunction with other substances.

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