Infosafe No™	1CH26	Issue Date : March 2014	RE-ISSUED by CHEMSUPP

Product Name : **COPPER (II) ACETATE**

Classified as hazardous

1. Identification

GHS Product Identifier	COPPER (II) ACETATE
Company Name	CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)
Address	38 - 50 Bedford Street GILLMAN SA 5013 Australia
Telephone/Fax Number	Tel: (08) 8440-2000 Fax: (08) 8440-2001
Recommended use of the chemical and restrictions on use	Pesticide, catalyst, fungicide, pigments, manufacture of Paris green and laboratory reagent.

Other Names	**Name**	**Product Code**
	Copper (II) acetate monohydrate, Copper diacetate, Copper acetate, Crystals of Venus, Cupric acetate monohydrate	
	COPPER (II) ACETATE LR	CL104
	COPPER (II) ACETATE AR	CA104

Other Information EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture	Hazardous to the Aquatic Environment - Acute Hazard: Category 1 Eye Damage/Irritation: Category 2A Acute Toxicity - Oral: Category 4 Skin Corrosion/Irritation: Category 2 Single target organ toxicity - 3 (respiratory tract irritation)
Signal Word (s)	WARNING
Hazard Statement (s)	H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H400 Very toxic to aquatic life.
Pictogram (s)	Exclamation mark, Environment

Precautionary statement – Prevention	P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement – Response	P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P330 Rinse mouth. P332+P313 If skin irritation occurs: Get medical advice/attention.

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P337+P313 If eye irritation persists: Get medical advice/attention.

3. Composition/information on ingredients

Chemical Characterization Solid

Ingredients

Name	CAS	Proportion	Hazard Symbol	Risk Phrase
Copper (II) Acetate	6046-93-1	100 %	Xn, Xi, N	R22, R36/37/38, R50/53

4. First-aid measures

Inhalation Remove victim to fresh air. Employ artificial respiration if indicated. Seek medical attention.

Ingestion Rinse mouth thoroughly with water immediately. Give plenty of water to drink. Do not induce vomiting. Seek immediate medical assistance.

Skin Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical advice if effects persist.

Eye contact Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek immediate medical assistance.

First Aid Facilities Maintain eyewash fountain and safety shower in work area.

Advice to Doctor Treat symptomatically. Consult Poisons Information Centre.

Other Information For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Suitable extinguishing media Use appropriate fire extinguisher for surrounding environment.

Hazards from Combustion Products Irritating, toxic and corrosive fumes and vapours, including oxides of carbon, acetic acid fumes (poisonous gas), copper fumes and some metallic oxides. Contact with incompatibles such as acids or acid fumes may release highly toxic fumes.

Specific Methods SMALL FIRE: Use dry chemical, CO_2, water spray or foam extinguishers.
LARGE FIRE: Use water spray, fog or foam.

Specific hazards arising from the chemical Runoff may pollute waterways. Fire or heat may produce irritating, poisonous and/or corrosive gases/fumes. Containers may explode when heated.

Hazchem Code 2Z

Decomposition Temp. 240 °C

Precautions in connection with Fire Use suitable protective equipment for surrounding fire.

6. Accidental release measures

Personal Precautions Avoid inhalation, contact with skin, eyes and clothing.

Personal Protection Use personal protective equipment listed in Section 8.

Clean-up Methods - Small Spillages Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

Environmental Precautions Prevent from entering into drains, ditches or rivers.

7. Handling and storage

Precautions for Safe Handling Avoid prolonged or repeated contact with skin, eyes and clothing . Avoid ingestion and inhalation of material. Keep container tightly closed when not in use. Use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Wear suitable protective clothing. Keep away from incompatibles.

Conditions for safe storage, including any incompatabilities Store in a cool,dry place. Keep containers securely sealed and protected against physical damage. Isolate from incompatible substances.

Corrosiveness More resistant to atmospheric corrosion than iron, forming a green layer of hydrated basic carbonate. Readily attacked by alkalis. Attached by acetic acid and other organic acids.

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Storage Regulations Refer Australian Standard AS/NZS 4681:2000 'The storage and handling of Class 9 (miscellaneous) dangerous goods and articles'.

8. Exposure controls/personal protection

Occupational exposure limit values

Name	STEL		TWA		
	mg/m3	ppm	mg/m3	ppm	Footnote
Copper (II) Acetate			1		Copper, dust & mist (as Cu)

Other Exposure Information A time weighted average (TWA) has been established for Copper, dust and mists (as Cu) (Worksafe Aust) of 1 mg/m³ and for Copper (fume) (Safe Work Australia) of 0.2 mg/m³. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.

Appropriate engineering controls In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

Respiratory Protection Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Eye Protection The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Hand Protection Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Excellent: Nitrile, neoprene, polyvinyle chloride gloves. Fair: NR latex.

Footwear Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - guide to selection, care and use.

Body Protection Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hygiene Measures Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form Solid

Appearance Greenish-blue fine powder.

Odour Odourless; slightly acetic acid odour.

Decomposition Temperature 240 °C

Melting Point 115 °C

Solubility in Water Soluble (72 g/L @ 20 °C)

Solubility in Organic Solvents Soluble in alcohol. Slightly soluble in glycerol and ether. Slowly soluble in ammonia water.

Specific Gravity 1.882

pH 5.2 - 5.5 (20 g/L, H2O, 20 °C)

Flammability Non combustible material.

Molecular Weight 199.64

10. Stability and reactivity

Chemical Stability Stable under normal use conditons.

Conditions to Avoid Incompatible materials, dust generation, excess heat, exposure to moist air or water.

Incompatible Materials Strong acids, oxidising agents, sodium hypobromite, acetylene, hydrazine and nitromethane.

Hazardous Decomposition Products	Irritating, toxic and corrosive fumes and vapours, including oxides of carbon, acetic acid fumes (poisonous gas), copper fumes and some metallic oxides. Contact with incompatibles such as acids or acid fumes may release highly toxic fumes.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50(rat): 710 mg/kg.
Ingestion	Harmful if swallowed. Ingestion of sufficient concentrations may cause irritation and possible burning and pain of mucous membranes in the mouth, pharynx, oesophagus, and gastrointestinal tract. Hemorrhagic gastritis, salivation, headache, nausea, abdominal/gastric pain, dizziness, tiredness, metallic taste, convulsions, shock, bloody diarrhoea and vomiting (vomitus is characteristically greenish-blue) may occur. If vomiting does not occur immediately systemic copper poisoning may occur, symptoms include of capillary damage, headache, cold swear, weak pulse, stomach and intestine ulceration, internal haemorrhage, nephritis, jaundice, CNS damage, kidney and liver damage, shock, coma and possibly death. Poisoning could occur due to this material being soluble in hydrochloric acid, which the stomach contains. May cause changes in structure and or function of the salivary glands in the gastrointestinal system causing nausea and vomiting.
Inhalation	Toxic by inhalation. Inhalation of copper dust or fumes causes irritation to mucous membranes and upper respiratory tract (nose, throat, lungs). Early symptoms of copper poisoning include coughing, sore throat, wheezing, high temperatures, metallic taste, shortness of breath, nausea, vomiting, epigastric burning and diarrhoea. May result in harmful corrosive effects including lesions, ulcerations and perforation of the nasal septum and respiratory tract, delayed pulmonary edema, pneumonitis and emphysema. When heated this compound may give off copper fume, which may cause 'Metal fume fever' with symptoms similar to the common cold, including chills and stiffness of the head as well as high temperatures, nausea, coughing and general weakness. Copper compounds have shown by inhalation to produce haemolysis of the red blood cells, hepatic necrosis, gastro intestinal bleeding, oligiura, ozotemia, hemoglobinuria, haematuria, tachycardia convulsions, coma and even death.
Skin	May cause irritation with redness and pain. May cause discolouration of the skin; greenish-black skin. May be harmful if absorbed through the skin. Causes skin irritation, possibly severe, resulting in redness, itching and pain. May cause skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause skin burns.
Eye	Corrosive. Risk of serious damage to eyes causing irritation, redness, pain, blurred vision, discoloration and possible eye damage (chemical conjunctivitis, corneal clouding, ulceration, permanent corneal opacification) leading to irreversible eye injury.
Carcinogenicity	Not listed in the IARC Monographs.
Chronic Effects	Prolonged or repeated skin exposure may cause defatting leading to dermatitis. Prolonged or repeated exposure to dusts of copper salts may cause discolouration of the skin or hair, blood and liver damage, ulceration and perforation of the nasal septum, runny nose, metallic taste, and atrophic changes and irritation of the mucous membranes. Effects may be delayed. Individuals with Wilson's disease are unable to metabolize copper. Thus, copper accumulates in various tissues and may result in liver, kidney and brain damage. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis. Symptoms of systemic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure. Depending on the intensity and duration of exposure, effects may vary from mild irritation to severe destruction of tissue. The estimated lethal dose in an untreated adult is 10 to 20 g copper.
Mutagenicity	No evidence of mutagenic properties.

12. Ecological information

Ecotoxicity	Quantitative data on the ecological effect of this product are not available. Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.
Persistence and degradability	Methods for the determination of biodegradability are not applicable to inorganic substances.
Bioaccumulative Potential	This substance is expected to significantly bioaccumulate.

Environmental Protection	Do not allow product to enter drains, waterways or sewers.
Acute Toxicity - Fish	The following applies to copper compounds: copper ions toxic for fish at concentrations below 1 mg/l. LC50 (Pimephales promelas): 0.039 mg/l/96h. Fish: C. auratus toxic 0.01 mg/l
Acute Toxicity - Algae	The following applies to copper compounds: copper ions toxic for algae at concentrations below 1 mg/l. EC50 (Selenastrum capricornatum - green algae): 85 ug/l/14 days.
Acute Toxicity - Bacteria	The following applies to copper compounds: copper ions toxic for bacteria at concentrations below 1 mg/l.
Acute Toxicity - Other Organisms	The following applies to copper compounds: copper ions toxic for other organisms at concentrations below 1 mg/l. Mussels: 0.55 mg/l lethal in 12h; oysters: 0.1 mg/l toxic

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and disposed of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information	Class 9 Miscellaneous dangerous goods shall not be loaded in a vehicle with: - Class 1 Explosives - Class 5. 1 Oxidizing agents (when Class 9 substance capable of igniting and burning) - Class 5. 2 Organic peroxides (when Cl. 9 capable of igniting/burning).
U.N. Number	3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport hazard class(es)	9
Hazchem Code	2Z
Packing Group	III
EPG Number	9C1
IERG Number	47

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS).
Poisons Schedule	S6

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons No. 4', Commonwealth of Australia, June 2013. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. 'Labelling of Hazardous Workplace Chemicals, Code of Proctice' Safe Work Australia. Standards Australia 'AS 1940-2004 The Storage and Handling of Flammable and Combustible Liquids. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Worksafe Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]'. Worksafe Australia, 'Hazardous Substances Information System, 2005'. Worksafe Australia, 'National Code of Practice for the Labelling of Workplace Hazardous Substances (2011)'. Worksafe Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]'.
Contact Person/Point	Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT: All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Chem-Supply accepts no responsibility whatsoever for its accuracy or for any results

	that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.
Empirical Formula & Structural Formula	Cu(C2H3O2)2.H2O
Other Information	Previously labelled as: R22 Harmful if swallowed. R36/37/38 Irritating to eyes, respiratory system and skin. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. S24/25 Avoid contact with skin and eyes. S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S60 This material and its container must be disposed of as hazardous waste. S61 Avoid release to the environment. Refer to special instructions/safety data sheet. ...End Of MSDS...