



Infosafe No™	1CH25	Issue Date : March 2014	RE-ISSUED by CHEMSUPP
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Product Name : **COPPER (FOIL, TURNINGS AND WIRE)**

Not classified as hazardous

1. Identification

GHS Product Identifier	COPPER (FOIL, TURNINGS AND WIRE)		
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	Electrical wiring and conductors, switches, ammunition, manufacture of bronzes, brass and other copper alloys, plumbing, works of art; electroplated protective coatings and undercoats for nickel chromium, zinc etc. cooking utensils; corrosion resistant piping; insecticides; catalyst; antifouling paints. Flakes used as insulation for liquid fuels. Whiskers used in thermal and electrical composites; laboratory reagent.		
Other Names	<u>Name</u>	<u>Product Code</u>	
	COPPER WIRE LR	CL076	
	COPPER FOIL LR	CL054	
	COPPER TURNINGS TG	CT056	
	COPPER FOIL AR	CA054	
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	Not classified as hazardous according to the Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004) 3rd Edition, Safe Work Australia. Not classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).
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3. Composition/information on ingredients

Chemical Characterization	Solid				
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	Copper	7440-50-8	100 %		

4. First-aid measures

Inhalation	Remove victim to fresh air. Seek medical advice if effects persist.
Ingestion	Wash out mouth with water and obtain medical attention. Seek medical attention.
Skin	Remove contaminated clothing and wash affected skin with soap and water. 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. If persistent irritation occurs, obtain medical attention.
First Aid Facilities	Maintain eyewash fountain and safety shower in work area.
Advice to Doctor	Treat symptomatically or consult a 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

Hazards from Combustion Products	Irritating, toxic and corrosive fumes and vapours, including copper fumes and oxides of copper.
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Specific Methods Use extinguishing media most appropriate for the surrounding fire.**Precautions in connection with Fire** Use suitable protective equipment for surrounding fire.**6. Accidental release measures****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.**7. Handling and storage****Precautions for Safe Handling** Avoid generation or accumulation of dusts. Avoid prolonged or repeated contact with skin, eyes and clothing. Keep container tightly closed when not in use.

Keep away from incompatibles such as acetylene, ammonium nitrate, bromates, chlorates, iodates, chlorine, (chlorine and oxygen difluoride), chlorine trifluoride, ethylene oxide, fluorine, hydrogen peroxide, hydrazine mononitrite, hydrogen sulfide, hydrazoic acid, lead azide, potassium peroxide, sodium azide, and sodium peroxide, strong acids and strong oxidizing agents.

Conditions for safe storage, including any incompatibilities No special storage requirements.**Corrosiveness**

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

8. Exposure controls/personal protection

Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m ³	ppm	mg/m ³	ppm	
	Copper			0.2		Copper (fumes)
Other Exposure Information	A time weighted average (TWA) has been established for Copper, dusts & mists (as Cu) (Safe Work Australia) of 1 mg/m ³ and for Copper (fume) (Safe Work Australia) of 0.2 mg/m ³ . 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 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	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.					

9. Physical and chemical properties

Form Solid

Appearance A metal with a distinct reddish colour.

Odour Odourless.



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Melting Point	1083 °C
Boiling Point	2595 °C
Solubility in Water	Insoluble.
Solubility in Organic Solvents	Slowly soluble in ammonia water.
Specific Gravity	8.94
Vapour Pressure	1 mm (@ 1628 °C)
Flammability	Non combustible material.
Molecular Weight	63.55
Other Information	Ductile, malleable. Excellent conductor of electricity. Dissolves readily in nitric and hot concentrated sulfuric acids, in hydrochloric and dilute sulfuric acids slowly, but only when exposed to the atmosphere. Heat of fusion: 48.9 cal/g. Mohs' hardness: 3.0. Specific Resistance: 1.673 microohms/cm.

10. Stability and reactivity

Chemical Stability	May discolour on exposure to air and moisture.
Conditions to Avoid	Moisture. Heat, flames, ignition sources and incompatibles.
Incompatible Materials	Keep away from incompatibles such as acetylene, ammonium nitrate, bromates, chlorates, iodates, chlorine, (chlorine and oxygen difluoride), chlorine trifluoride, fluorine, ethylene oxide, fluorine, hydrogen peroxide, hydrazine mononitrite, hydrogen sulfide, hydrazoic acid, lead azide, potassium peroxide, sodium azide, and sodium peroxide, strong acids and strong oxidizing agents.
Hazardous Decomposition Products	Copper oxides. Emits toxic fumes.
Possibility of hazardous reactions	Reacts violently with acetylene, ammonium nitrate, bromates, chlorates, iodates, chlorine, chlorine trifluoride, (chlorine + oxygen difluoride), ethylene oxide, fluorine, hydrogen peroxide, hydrazine mononitrate, hydrazoic acid, hydrogen sulfide, lead azide, potassium peroxide, sodium azide and sodium peroxide.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Ingestion	May be 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, with metallic taste, salivation, headache, nausea, abdominal/gastric pain, dizziness, convulsions, shock, bloody diarrhoea and vomiting. The vomitus is characteristically greenish-blue. If vomiting does not occur immediately systemic copper poisoning may occur, symptoms include of capillary damage, headache, cold sweat, 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.
Inhalation	May be harmful if inhaled. Inhalation of copper dust and fumes may irritate the respiratory tract (nose, throat, lungs) and mucous membranes. Symptoms may include of coughing, sore throat, wheezing, metallic taste, high temperature, and shortness of breath. May result in harmful corrosive effects including lesions, ulcerations and perforation of the nasal septum and respiratory tract, delayed pulmonary oedema, pneumonitis and emphysema. When heated this compound may give off copper fume, which may cause 'fume metal 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.
Skin	May cause discolouration of the skin; greenish-black skin. May be harmful if absorbed through the skin. May cause skin irritation, possibly severe, resulting in redness, itching and pain. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.
Eye	May be an eye irritant. Causes eye irritation with symptoms including redness, itching, pain, stinging, blurred vision, discoloration and possible eye damage (permanent corneal opacification, chemical conjunctivitis, ulceration) leading to irreversible eye injury.
Carcinogenicity	No evidence of carcinogenic properties.
Chronic Effects	Prolonged or repeated exposure to dusts of copper may cause discolouration of the skin or hair and or demantitis. Repeated inhalation can cause chronic respiratory disease. Prolonged or repeated exposure



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to the eye may cause severe injury to the iris or cornea and may cause blindness. Prolonged or repeated exposure may cause blood and liver damage, ulceration and perforation of the nasal septum, runny nose, metallic taste, atrophic changes and irritation of the mucous membranes. Chronic copper poisoning is typified by hepatic cirrhosis, enlargement of the liver, jaundice, 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.

Pregnant women should not use this product! This product has been suspected to cause birth defects, low birth weight, psychological, behavioural defects, and cause adverse effects on the female and male reproductive systems.

Mutagenicity No evidence of mutagenic properties.**Other Information** Due to the physical form of this product no hazardous properties are expected when used and handled with appropriate care. The above TOXICOLOGICAL INFORMATION relates to copper dust.**12. Ecological information****Ecotoxicity** Quantitative data on the ecological effect of this product are not available.**Persistence and degradability** Methods for the determination of biodegradability are not applicable to inorganic substances.**13. Disposal considerations****Disposal Considerations** Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.**14. Transport information****Transport Information** Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG); by the IATA Air Transport Dangerous Goods Regulations; or by the IMDG (International Maritime Dangerous Goods) Code. Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.**15. Regulatory information****Regulatory Information** Listed in the Australian Inventory of Chemical Substances (AICS).

No Risk or Safety phrases are applicable.

Poisons Schedule Not Scheduled**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 Practice' 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:**

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Empirical Formula & Structural Formula Cu



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Safety Data Sheet

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