



Infosafe No™	1CH1Z	Issue Date : March 2014	RE-ISSUED by CHEMSUPP
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Product Name : **COBALT (II) CHLORIDE Hexahydrate**

Classified as hazardous

1. Identification

GHS Product Identifier	COBALT (II) CHLORIDE Hexahydrate	
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	Absorbent for ammonia, gas masks, electroplating, sympathetic inks, hygrometers, manufacture of vitamin B12, flux for magnesium refining, solid lubricant, dye mordant, catalyst, barometers, analytical and laboratory reagent, fertiliser additive, beer additive and medicinal use.	
Other Names	Name	Product Code
	COBALT (II) CHLORIDE Hexahydrate LR	CL093
	COBALT (II) CHLORIDE Hexahydrate AR	CA093
	Cobaltous chloride hexahydrate	
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 Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1 Carcinogenicity: Category 1B Germ Cell Mutagenicity: Category 2 Acute Toxicity - Oral: Category 4 Sensitization - Respiratory: Category 1 Sensitization - Skin: Category 1 Toxic to Reproduction: Category 1B
Signal Word (s)	DANGER
Hazard Statement (s)	H302 Harmful if swallowed. H317 May cause an allergic skin reaction. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H341 Suspected of causing genetic defects. H350 May cause cancer by inhalation. H360 May damage fertility. H410 Very toxic to aquatic life with long lasting effects.
Pictogram (s)	Health hazard, Exclamation mark, Environment



Precautionary statement – Prevention	P201 Obtain special instructions before use. 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. P285 In case of inadequate ventilation wear respiratory protection.
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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+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. P308+P313 IF exposed or concerned: Get medical advice/attention. P330 Rinse mouth. P332+P313 If skin irritation occurs: Get medical advice/attention. P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
Other Information	In animals, administration of cobalt salts produces polycythemia. In humans, a single case of poisoning, liver and kidney damage has been attributed to cobalt. There have also been reports of haematologic, digestive and pulmonary changes in humans.

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>
	Cobalt (II) chloride hexahydrate	7791-13-1	100 %	T, N	R22, R42/43, R49(2), R50/53

4. First-aid measures

Inhalation	Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. If symptoms develop seek medical attention.
Ingestion	Rinse mouth thoroughly with water immediately. Give plenty of water to drink. Seek medical attention. If person suffers from a heart condition or anaemia, seek immediate medical attention.
Skin	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. If persistent irritation occurs, obtain medical attention.
Eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical attention.
First Aid Facilities	Maintain eyewash fountain and drench facilities in work area.
Advice to Doctor	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

Specific Methods	Use extinguishing media most appropriate for the surrounding fire. Small fire: Use dry chemical, CO2 or water spray. Large fire: Use water spray, fog or foam - Do NOT use water jets.
Specific hazards arising from the chemical	Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases, hydrogen chloride.
Hazchem Code	2X
Precautions in connection with Fire	Wear SCBA and chemical splash suit.

6. Accidental release measures

Spills & Disposal	Do NOT touch or walk through this product. Do NOT touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas. Cover with plastic sheet to minimize spreading. Absorb with earth, sand or other non-combustible material and transfer to container.
Personal Precautions	Evacuate the area of all non-essential personnel. Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.
Personal Protection	Wear protective clothing specified for normal operations (see 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. Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. Wear suitable protective clothing. Only use in well-ventilated areas. In case of insufficient ventilation, wear suitable respiratory equipment. Wash hands and face
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Conditions for safe storage, including any incompatibilities thoroughly after working with material. Store in a cool, dry place. Store away from oxidizing agents. Keep containers securely sealed and protected against physical damage. Keep container tightly closed and in a cool, well-ventilated place. Keep away from strong acids and strong bases. Keep away from moisture.

Storage Regulations Refer Australian Standard AS 4452 - 1997 'The storage and handling of toxic substances'.

8. Exposure controls/personal protection

Other Exposure Information A time weighted average (TWA) has been established for cobalt, metal dust & fume (as Co) (Worksafe Aust) of 0.05 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. Note: Sensitiser. Some substances can cause a specific immune response in some people. Such substances are called sensitizers and the development of a specific immune response is termed 'sensitisation'. Exposure to a sensitiser, once sensitisation has occurred, may manifest itself as a skin rash or inflammation or as an asthmatic condition, and in some individuals this reaction can be extremely severe.

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.

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 Pink to red crystals. On heating forms violet to pale-blue crystals. Aqueous solution is pink to red, but turns blue when heated or when HCl or H₂SO₄ is added.

Odour Odourless.

Solubility in Water Soluble in water.

Solubility in Organic Solvents Soluble in alcohols, ether, glycerol and acetone.

Specific Gravity 1.924

pH pH 5 (50g/l H₂O)

Vapour Pressure 40 mm Hg @ 770°C (53 hPa).

Flammability Non combustible material.

Molecular Weight 237.93

Other Information On heating loses 4H₂O at 52-56°C forming the dihydrate, violet or blue crystals, s.g. 2.477, stable unless exposed directly to moisture. Loses another H₂O by 100°C forming the monohydrate, violet, hygroscopic solid. Remaining H₂O lost at 120-140°C forming pale-blue anhydrous crystals, s.g. 3.348.

10. Stability and reactivity

Chemical Stability Stable under normal use conditions. Moisture sensitive. Absorbs NH₃ from air.

Conditions to Avoid Extremes of temperature and direct sunlight. Moisture. Incompatibles.

Incompatible Materials Strong oxidising agents, mineral acids, tert-butyl hydroperoxide, potassium and metal halides, sodium dispersions and alkali metals.



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Hazardous Decomposition Products Hydrogen chloride gas and cobalt oxides.**Hazardous Polymerization** Will not occur.**11. Toxicological Information****Acute Toxicity - Oral** LD50 (rat): 766 mg/kg**Ingestion** Toxic if swallowed. This material is destructive to the tissue of mucous membranes lining the digestive tract. Symptoms include of abdominal pain, nausea, vomiting, mild hypertension, rash and tinnitus (ringing in the ears), diarrhoea, loss of appetite, and a decrease in body temperature and blood pressure. Can cause blood damage.**Inhalation** Harmful by inhalation of dust. Causes irritation to the respiratory tract. Symptoms consist of coughing, shortness of breath, nausea and vomiting. Repeated or over exposure to this material may cause asthma, respiratory hypersensitivity and chronic pulmonary effects (i.e. pulmonary fibrosis and pulmonary edema). Inhalation of this material may cause sensitive individuals to develop asthma and eczema.**Skin** May cause sensitisation by skin contact. Risk of absorption. Symptoms include of irritation, redness, itching, pain, dermatitis and tinnitus (ringing in the ears).**Eye** Harmful if contact eyes. Causes eye irritations with symptoms including redness and pain. May affect vision.**Carcinogenicity** The International Agency for Research on Cancer (IARC) indicates there is limited evidence for carcinogenicity of cobalt (II) chloride in experimental animals, and has assigned cobalt and cobalt compounds as possibly carcinogenic to humans (group 2B).**Reproductive Toxicity** Evidence of reproductive effects.**Chronic Effects** Large amounts depress erythrocyte production, which may lead to death in children. Other effects include cutaneous flushing, chest pains, nerve deafness, respiratory hypersensitivity, pulmonary fibrosis, pulmonary edema, thyroid hyperplasia, polycythemia, goiter, eczema, myxedema and congestive heart failure.**Mutagenicity** Evidence of mutagenic effects.**Other Information** This substance has only been assessed against the endpoint of sensitisation. This substance has not been subject to a complete assessment for hazard classification in accordance with the approved criteria. Work Safe Australia, HSIS.**12. Ecological information****Ecotoxicity** Quantitative data on the ecological effect of this product are not available.**Persistence and degradability** This material will dissolve in soil with traces of the cobalt element remaining.**Information on Ecological Effects** Highly toxic to aquatic life. May cause long-term adverse effects in the aquatic environment.**Environmental Protection** Do not allow product to enter drains, waterways or sewers.**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** Dangerous Goods of Class 6 (Toxic and Infectious Substances) are incompatible in a placard load with any of the following:
Class 1, Class 3, if the Class 3 dangerous goods are nitromethane, Class 8, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids; and are incompatible with food and food packaging in any quantity.**U.N. Number** 3288**UN proper shipping name** TOXIC SOLID, INORGANIC, N.O.S.**Transport hazard class(es)** 6.1



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Hazchem Code	2X
Packaging Method	3.8.6.1
Packing Group	III
IERG Number	34

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS).
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)]'.
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Contact Person/Point	Paul McCarthy Ph. (08) 8440 2000
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Empirical Formula & Structural Formula	CoCl ₂ .6H ₂ O
Other Information	Previously labelled as: R22 Harmful if swallowed. R42/43 May cause sensitisation by inhalation and skin contact. R49(2) May cause cancer by inhalation. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. S22 Do not breathe dust. S45 In case of accident or if you feel unwell seek medical advice immediately. S53 Avoid exposure - obtain special instructions before use. S60 This material and its container must be disposed of as hazardous waste. S61 Avoid release to the environment. Refer special instructions/safety data sheet. ...End Of MSDS...

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