Infosafe No™	1CH1Z	Issue Date :January 2019	RE-ISSUED by CHEMSUPP

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)

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SA 5013 Australia

Telephone/Fax Number: Tel: (08) 8440-2000

Emergency phone number: CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

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

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
Acute Toxicity - Oral: Category 4
Specific Target Organ Toxicity - Repeated Exposure Category 1
Sensitization - Skin: Category 1
Sensitization - Respiratory: Category 1
Toxic to Reproduction: Category 1B
Eye Damage/Irritation: Category 1

Signal Word (s): DANGER

Hazard Statement (s):
H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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, Corrosion, Environment



Precautionary statement – Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement – Response	P280 Wear protective gloves/protective clothing/eye protection/face protection. P281 Use personal protective equipment as required. P285 In case of inadequate ventilation wear respiratory protection. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/physician. P308+P313 IF exposed or concerned: Get medical advice/attention.
Precautionary statement – Storage	P405 Store locked up.
Precautionary statement – Disposal	P501 Dispose of contents/container to an appproved waste disposal plant.
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 haemotologic, digestive and pulmonary changes in humans.

3. Composition/information on ingredients

Chemical Characterization Solid

Ingredients

Name	CAS	Proportion	Hazard Symbol	Risk Phrase
Cobalt (II) chloride hexahydrate	7791-13-1	100 %		

4. First-aid measures

Inhalation	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice. 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. In all cases of eye contamination it is a sensible precaution to seek medical advice.
First Aid Facilities	Maintain eyewash fountain and drench facilities in work area.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
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 thoroughly after working with material.
Conditions for safe storage, including any incompatabilities	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/NZS 4681:2000 'The storage and handling of Class 9 (miscellaneous) dangerous goods and articles'.

8. Exposure controls/personal protection

Other Exposure Information	These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity. A time weighted average (TWA) has been established for cobalt, metal dust & fume (as Co) (Safe Work Australia) 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 sensitisers 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. These methods should be used in preference to personal protective equipment.
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.
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
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 H20)
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 conditons. 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.
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	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. - (Cobalt (II) chloride)
Transport hazard class(es)	9
Hazchem Code	2X
Packaging Method	3.8.9
Packing Group	III
EPG Number	9C1
IERG Number	47

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Poisons Schedule	Not Scheduled

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. 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. Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Chemical Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'.
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	$CoCl_2.6H_2O$

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