



Infosafe No™	1CH20	Issue Date : March 2014	RE-ISSUED by CHEMSUPP
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Product Name : **COBALT NITRATE Hexahydrate**

Classified as hazardous

**1. Identification**

<b>GHS Product Identifier</b>	COBALT NITRATE Hexahydrate	
<b>Company Name</b>	CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)	
<b>Address</b>	38 - 50 Bedford Street GILLMAN SA 5013 Australia	
<b>Telephone/Fax Number</b>	Tel: (08) 8440-2000 Fax: (08) 8440-2001	
<b>Recommended use of the chemical and restrictions on use</b>	Cobalt pigments, sympathetic inks, hair dyes, decorating stoneware and porcelain, preparation of catalysts, production of vitamin B12 supplements, additive to soils and animal feeds, oxidising agent and laboratory reagent.	
<b>Other Names</b>	<b>Name</b>	<b>Product Code</b>
	COBALT NITRATE Hexahydrate LR	CL091
	COBALT NITRATE Hexahydrate AR	CA091
	Cobalt (II) nitrate hexahydrate, Cobaltous nitrate hexahydrate, Cobaltous nitrate	
<b>Other Information</b>	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**

<b>GHS classification of the substance/mixture</b>	Hazardous to the Aquatic Environment - Acute Hazard: Category 1 Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1 Carcinogenicity: Category 1 Germ Cell Mutagenicity: Category 2 Sensitization - Respiratory: Category 1 Sensitization - Skin: Category 1 Toxic to Reproduction: Category 1
<b>Signal Word (s)</b>	DANGER
<b>Hazard Statement (s)</b>	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.
<b>Pictogram (s)</b>	Health hazard, Environment



<b>Precautionary statement – Prevention</b>	P201 Obtain special instructions before use. P260 Do not breathe 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.
<b>Precautionary statement – Response</b>	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.



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<b>Other Information</b>	<p>P332+P313 If skin irritation occurs: Get medical advice/attention.  P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  P308+P313 IF exposed or concerned: Get medical advice/attention.  In animals, administration of cobalt salts produces polycythaemia. In humans, a single case of poisoning, liver and kidney damage has been attributed to cobalt. There have been reports of hematologic, digestive and pulmonary changes in humans.</p>
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**3. Composition/information on ingredients**

<b>Chemical Characterization</b>	Solid				
<b>Ingredients</b>	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	Cobalt (II) nitrate	10026-22-9	100 %	T, O, N	R50/53, R8, R49(1), R68, R60(1), R42/43

**4. First-aid measures**

<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, apply artificial respiration. If symptoms persist, obtain medical attention.
<b>Ingestion</b>	Rinse mouth thoroughly with water immediately. Give plenty of water to drink. Do not induce vomiting. Seek medical attention.
<b>Skin</b>	If the person suffers with a heart condition or anaemia, seek immediate medical attention. Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. If irritation occurs seek medical advice.
<b>Eye contact</b>	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical advice.
<b>First Aid Facilities</b>	Maintain eyewash fountain and drench facilities in work area.
<b>Advice to Doctor</b>	Treat symptomatically.
<b>Other Information</b>	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

**5. Fire-fighting measures**

<b>Suitable extinguishing media</b>	Use appropriate fire extinguisher for surrounding environment.
<b>Hazards from Combustion Products</b>	May evolve toxic fumes in fire (nitrogen oxides).
<b>Specific Methods</b>	Small fire: Use flooding quantities of water. Do NOT use dry chemical, CO2 or foam. If safe to do so, move undamaged containers from the fire area. Do NOT move cargo if cargo has been exposed to heat. Large fire: Flood fire area with water from a protected position. Cool containers with flooding quantities of water until well after the fire is out. If possible, withdraw from area and let it burn. Avoid getting water inside the containers; a violent reaction may occur. Dam fire control water for later disposal.
<b>Specific hazards arising from the chemical</b>	Will accelerate burning when involved in a fire. May explode on heating, shock, friction or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, clothing, etc). Fire may produce irritating, poisonous, and/or corrosive gases. Containers may explode on heating. Runoff may create fire or explosion hazard.
<b>Hazchem Code</b>	1Y
<b>Precautions in connection with Fire</b>	Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection.

**6. Accidental release measures**

<b>Spills &amp; Disposal</b>	Do not contaminate. Keep combustibles (wood, paper, clothing, oil, etc.) away from the spilled material. Do NOT touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent entry into waterways, drains or confined areas. Prevent exposure to heat. Dry Spill: Use clean non-sparking tools to transfer material to a clean, dry plastic container and cover loosely. Move container from spill area. Small Liquid Spill: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place in a
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loosely-covered container for later disposal.  
Large Liquid Spill:  
SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.  
**Personal Precautions** Avoid raising a dust cloud. Avoid contact with skin, eyes, nose, mouth.

**Personal Protection** Use personal protective equipment listed in Section 8.

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

**7. Handling and storage**

**Precautions for Safe Handling** Avoid generation or accumulation of dusts. Avoid prolonged or repeated contact with skin, eyes and clothing. Wash hands and face thoroughly after working with material. Only use in well-ventilated areas.

**Conditions for safe storage, including any incompatibilities** Store in a cool, dry place. Keep containers securely sealed and protected against physical damage. Do not store on wooden floors. Store away from combustible materials. Store away from sources of heat or ignition. Hygroscopic.

**Storage Regulations** Refer Australian Standard AS 4326 - 1995 'The storage and handling of oxidizing agents'.

**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/m<sup>3</sup>. 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.

**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** Red crystals.

**Odour** Odourless.

**Melting Point** 55 - 57 °C

**Boiling Point** 74 - 75 °C (decomposes)

**Solubility in Water** Soluble (2170 g/L @ 100 °C).

**Solubility in Organic Solvents** Soluble in most organic solvents.

**Specific Gravity** 1.87

**pH** pH ~ 4.0 (100 g/L, H<sub>2</sub>O, 20 °C)

**Flammability** Non combustible.  
This material is an oxidising agent and may assist combustion. The possibility of toxic fumes in the event of a fire should be considered.



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**Molecular Weight** 291.03**Other Information** Red liquid becomes green and decomposes to the oxide above 74 °C.**10. Stability and reactivity****Chemical Stability** Deliquescent in moist air.**Conditions to Avoid** Exposure to moisture. Heat, sources of ignition. Incompatibles.**Incompatible Materials** Readily oxidisable materials, sodium hypophosphite, stannous chloride, reducing agents, aluminium powder, alkyl esters, phosphorous, tin (II) chloride, phosphinates, organic materials, strong acids, heavy metals, cyanides, thicyanates, isothiocyanates and hypophosphites.**Hazardous Decomposition Products** Nitrous gases released during decomposition.**Possibility of hazardous reactions** Mixtures with combustible material are readily ignited and may burn fiercely.**11. Toxicological Information****Acute Toxicity - Oral** LD50 (rat): 691 mg/kg.**Ingestion** Toxic. Symptoms include of abdominal pain, nausea, vomiting, diarrhoea, flushing of the face and ears, mild hypotension, rash and ringing in the ears. Causing systemic effects such as lack of appetite, drop in blood pressure, agitation and spasms.**Inhalation** May be harmful if inhaled. Irritating to respiratory system as may cause shortness of breath, coughing and pneumonitis. Respiratory hypersensitivity, asthma may appear. Inhalation of cobalt dust and fume is associated with an increased incidence of lung disease.**Skin** May be harmful if absorbed through the skin. Contact causes irritating via redness, itching and pain to skin with symptoms including of dermatitis, nausea and vomiting. Risk of sensitisation.**Eye** May cause eye irritations.**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).  
Category 2 - Hazardous Substances Information System, Safe Work Australia  
Probable human carcinogens are those substances for which there is sufficient evidence to provide a strong presumption that human exposure might result in the development of cancer. This evidence is generally based on appropriate long term animal studies, limited epidemiological evidence or other relevant information.**Chronic Effects** Intoxication: Target organs: kidneys, heart and pancreas.  
Prolonged or over exposure of cobalt dust/fumes inhalation is associated with an increased incidence of lung disease. Prolonged or over exposure by ingestion depresses blood cell production. Also may experience diarrhoea, loss of appetite, decrease in blood pressure and body temperature.**Mutagenicity** May cause adverse mutagenic effects.  
Category 3 - Hazardous Substances Information System, Safe Work Australia  
Substances suspected of having carcinogenic potential are those substances which have possible carcinogenic effects on humans but in respect of which the available information is not adequate for making a satisfactory assessment. There is some evidence from appropriate animal or epidemiological studies, but this is insufficient to place the substance in Category 2.**12. Ecological information****Ecotoxicity** No ecological data available for this product.**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 5.1 (Oxidizing Agent) are incompatible in a placard load with any of the following:  
Class 1, Class 2.1, Class 2.3, Class 3, Class 4, Class 5.2, Class 7, Class 8, Fire risk substances and Combustible liquids.



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<b>U.N. Number</b>	1477
<b>UN proper shipping name</b>	NITRATES, INORGANIC, N.O.S.
<b>Transport hazard class(es)</b>	5.1
<b>Hazchem Code</b>	1Y
<b>Packing Group</b>	II
<b>EPG Number</b>	5A1
<b>IERG Number</b>	31

**15. Regulatory information**

<b>Regulatory Information</b>	Listed in the Australian Inventory of Chemical Substances (AICS).
<b>Poisons Schedule</b>	Not Scheduled

**16. Other Information**

<b>Literature References</b>	<p>'Standard for the Uniform Scheduling of Medicines and Poisons No. 4', Commonwealth of Australia, June 2013.</p> <p>Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.</p> <p>National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.</p> <p>'Labelling of Hazardous Workplace Chemicals, Code of Practice' Safe Work Australia.</p> <p>Standards Australia 'AS 1940-2004 The Storage and Handling of Flammable and Combustible Liquids.</p> <p>Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.</p> <p>Worksafe Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]'.</p> <p>Worksafe Australia, 'Hazardous Substances Information System, 2005'.</p> <p>Worksafe Australia, 'National Code of Practice for the Labelling of Workplace Hazardous Substances (2011)'.</p> <p>Worksafe Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]'.</p>
<b>Contact Person/Point</b>	<p>Paul McCarthy Ph. (08) 8440 2000 <b>DISCLAIMER STATEMENT:</b></p> <p>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.</p>
<b>Empirical Formula &amp; Structural Formula</b>	Co(NO <sub>3</sub> ) <sub>2</sub> .6H <sub>2</sub> O
<b>Other Information</b>	<p>Previously labelled as:</p> <p>R42/43 May cause sensitisation by inhalation and skin contact.</p> <p>R49(1) May cause cancer by inhalation.</p> <p>R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p> <p>R60(1) May impair fertility.</p> <p>R68 Possible risk of irreversible effects.</p> <p>R8 Contact with combustible material may cause fire.</p> <p>S17 Keep away from combustible material.</p> <p>S45 In case of accident or if you feel unwell seek medical advice immediately.</p> <p>S53 Avoid exposure - obtain special instructions before use.</p> <p>S60 This material and its container must be disposed of as hazardous waste.</p> <p>S61 Avoid release to the environment. Refer to special instructions/safety data sheet.</p> <p>...End Of MSDS...</p>



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# Safety Data Sheet

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