



Infosafe No™	1CH4N	Issue Date : June 2014	RE-ISSUED by CHEMSUPP
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Product Name : **NICKEL CHLORIDE Hexahydrate**

Classified as hazardous

**1. Identification**

<b>GHS Product Identifier</b>	NICKEL CHLORIDE 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>	Electroplated nickel coatings, batteries, magnets; manufacture of sympathetic ink, stainless steel, metal alloys such as metal coins, jewellery and other metal items; catalyst and laboratory reagent.	
<b>Other Names</b>	<b>Name</b>	<b>Product Code</b>
	NICKEL CHLORIDE Hexahydrate LR	NL008
	NICKEL CHLORIDE Hexahydrate AR	NA008
	Nickelous chloride	
	Nickel dichloride	
	Nickel dichloride hexahydrate	
	Nickel (II) chloride hexahydrate	
<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 Acute Toxicity - Inhalation: Category 3 Acute Toxicity - Oral: Category 3 STOT Repeated Exposure Category 1 Sensitization - Respiratory: Category 1A Skin Corrosion/Irritation: Category 2 Sensitization - Skin: Category 1A Toxic to Reproduction: Category 2
<b>Signal Word (s)</b>	DANGER
<b>Hazard Statement (s)</b>	H301 Toxic if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H331 Toxic if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H341 Suspected of causing genetic defects. H350 May cause cancer by inhalation. H361 Suspected of damaging fertility or the unborn child. H372 Causes damage to organs through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects.
<b>Pictogram (s)</b>	Skull and crossbones, Health hazard, Environment



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**Precautionary statement – Prevention**

P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P264 Wash thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 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.

**Precautionary statement – Response**

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.  
 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.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.

**Precautionary statement – Storage**

P362 Take off contaminated clothing and wash before reuse.  
 P403+P235 Store in a well-ventilated place. Keep cool.  
 P404 Store in a closed container.

**3. Composition/information on ingredients**

Chemical Solid

**Characterization****Ingredients**

Name	CAS	Proportion	Hazard Symbol	Risk Phrase
Nickel chloride hexahydrate	7791-20-0	100 %	T, Xi, N	R45(1), R25, R36/37, R50/53

**4. First-aid measures**

<b>Inhalation</b>	Remove victim from exposure to fresh air. If breathing has stopped, apply artificial respiration. If symptoms persist, obtain medical attention.
<b>Ingestion</b>	DO NOT INDUCE VOMITING. Wash out mouth with water and give plenty of water to drink. Seek immediate medical attention.
<b>Skin</b>	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. In severe cases or if irritation persists, seek medical attention.
<b>Eye contact</b>	If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If symptoms persist seek medical attention.
<b>First Aid Facilities</b>	Maintain eyewash fountain and safety shower in work area.
<b>Advice to Doctor</b>	Treat symptomatically or consult a Poisons Information Centre.
<b>Other Information</b>	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**

<b>Hazards from Combustion Products</b>	Emits toxic fumes under fire conditions (hydrogen chloride gas and nickel oxides).
<b>Specific Methods</b>	Use extinguishing media most appropriate for the surrounding fire. No limitations to the type of extinguishing media.
<b>Specific hazards arising from the chemical</b>	Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases. Runoff may pollute waterways.
<b>Hazchem Code</b>	2X



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**Decomposition Temp.** 140 °C (release of crystalline water)**Precautions in connection with Fire** Wear SCBA and chemical splash suit. Fully encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.**6. Accidental release measures****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.**Clean-up Methods - Large Spillages** Seek expert advice on handling and disposal.**Environmental Precautions** Prevent further leakage or spillage and prevent from entering drains**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. Wash hands and face thoroughly after working with material.

**Conditions for safe storage, including any incompatibilities** Store in a cool, dry place. Keep containers securely sealed and protected against physical damage.**8. Exposure controls/personal protection**

Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
	Nickel chloride hexahydrate			0.1		Nickel, soluble compounds (as Ni)
<b>Other Exposure Information</b>	A time weighted average (TWA) has been established for Nickel, soluble compounds (Safe Work Australia) of 0.1 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. The substance can cause a specific immune response in some people. An affected individual may subsequently react to minute levels of that substance.					
<b>Appropriate engineering controls</b>	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.					
<b>Respiratory Protection</b>	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.					
<b>Eye Protection</b>	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.					
<b>Hand Protection</b>	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Rubber or plastic gloves.					
<b>Footwear</b>	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.					
<b>Body Protection</b>	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.					
<b>Hygiene Measures</b>	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.					



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**9. Physical and chemical properties**

<b>Form</b>	Solid
<b>Appearance</b>	Yellow to Green crystals or powder.
<b>Odour</b>	Odourless.
<b>Decomposition Temperature</b>	140 °C (release of crystalline water)
<b>Solubility in Water</b>	Soluble in water, 2.54kg/L at 20°C.
<b>Solubility in Organic Solvents</b>	Soluble in alcohol and ammonium hydroxide.
<b>pH</b>	~ 4.9 (100 g/L, H <sub>2</sub> O, 20 °C)
<b>Vapour Pressure</b>	1.3 hPa (671 °C) (anhydrous substance)
<b>Flammability</b>	Non combustible material.
<b>Molecular Weight</b>	237.71

**10. Stability and reactivity**

<b>Chemical Stability</b>	Stable under normal use conditons. Hygroscopic If containers are opened, substance will absorb moisture from the air and go into solution.
<b>Conditions to Avoid</b>	Exposure to moisture. Dust generation. Incompatibles.
<b>Incompatible Materials</b>	Strong oxidizing agents, peroxides, alkali metals, acids.
<b>Hazardous Decomposition Products</b>	Hydrogen chloride gas, nickel/nickel oxides.
<b>Possibility of hazardous reactions</b>	Violent reaction with potassium.
<b>Hazardous Polymerization</b>	Will not occur.

**11. Toxicological Information**

<b>Acute Toxicity - Oral</b>	LD50 (rat): 105 mg/kg (anhydrous substance). LD50 (rat): 186 mg/kg.
<b>Ingestion</b>	Toxic if swallowed. Irritation of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Nickel salts act as emetics (induce nausea and vomiting) when swallowed. Symptoms include abdominal pain, nausea, vomiting, diarrhea, metallic taste. Ingestion of large doses of the substance may cause giddiness, capillary damage, myocardial weakness, central nervous system depression, intestinal disorders, convulsions and asphyxia and may lead to liver and kidney damage.
<b>Inhalation</b>	Toxic by inhalation. Causes irritation to the respiratory tract including nose and throat. May cause irritation of the soft mucous tissues, resulting in sneezing, coughing, sore throat, metallic taste in mouth, nausea, vomiting, abdominal pain, dizziness and dyspnoea. The the possibility of allergic reactions in certain sensitive individuals may cause sensitisation. Lunge damage may result from a single high exposure or lower repeated exposures. Lung allergy occasionally occurs with asthma type symptoms.
<b>Skin</b>	May be harmful if absorbed through the skin. Causes skin irritation and may cause 'nickel itch', a form of dermatitis resulting from sensitization to nickel. This sensitization causes burning and itching sensations in the hands, abnormal redness of the skin and nodular eruption on the web of fingers, wrists and forearms. These skin eruptions may lead to ulcers or eczema.
<b>Eye</b>	Substance is irritating to the eyes, causing irritation, redness and pain.
<b>Carcinogenicity</b>	Nickel chloride hexahydrate is evaluated in the IARC Monographs as Group 1: Carcinogenic to humans. May cause cancer.
<b>Chronic Effects</b>	Inhalation of nickel dust at high levels may lead to asthma, pneumonitis, chronic bronchitis, reduced lung function leading to lung cancer, as well as nasal effects including rhinitis, nasal sinusitis, nasal mucosal injury and sinus cancer. Prolonged or repeated swallowing of the nickel compounds may lead to liver and kidney damage, CNS depression, intestinal disorders, capillary damage, and weight loss. Prolonged or repeated skin contact may cause sensitization dermatitis known as 'nickel itch'.
<b>Mutagenicity</b>	Evidence of mutagenic effects.

**12. Ecological information**



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<b>Ecotoxicity</b>	Nickel compounds can have a high acute and chronic toxicity to aquatic life. Nickel toxicity to aquatic organisms is determined by water hardness; the softer the water, the higher the toxicity.
<b>Environmental Protection</b>	Do not allow product to enter drains, waterways or sewers. Highly toxic to aquatic organisms. May cause long-term adverse effects in the aquatic organisms.
<b>Acute Toxicity - Fish</b>	LC50 (Pimephales promelas): 4.9 mg/l/96 h (anhydrous material). LC50 (Lepomis macrochirus): 5.3 mg/l/96 h (anhydrous material).
<b>Acute Toxicity - Daphnia</b>	EC50 (Daphnia magna): 0.51 mg/l/48 h (anhydrous material).
<b>Acute Toxicity - Bacteria</b>	EC50 (Photobacterium phosphoreum): 23 mg/l/15 min.

**13. Disposal considerations**

<b>Disposal Considerations</b>	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.
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**14. Transport information**

<b>Transport Information</b>	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 packaging in any quantity.
<b>U.N. Number</b>	3288
<b>UN proper shipping name</b>	TOXIC SOLID, INORGANIC, N.O.S.
<b>Transport hazard class(es)</b>	6.1
<b>Hazchem Code</b>	2X
<b>Packaging Method</b>	3.8.6.1
<b>Packing Group</b>	III
<b>IERG Number</b>	34

**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>Date of preparation or last revision of SDS</b>	June 2009
<b>Literature References</b>	'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)]'. <b>Contact Person/Point</b> Paul McCarthy Ph. (08) 8440 2000 <b>DISCLAIMER STATEMENT:</b> 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



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# Safety Data Sheet

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**Empirical Formula &** NiCl<sub>2</sub>.6H<sub>2</sub>O

**Structural Formula**

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