Infosafe No™	1CH47	Issue Date :June 2019	RE-ISSUED by CHEMSUPP

Product Name : **MANGANESE CHLORIDE Tetrahydrate**

Classified as hazardous

1. Identification

GHS Product Identifier	MANGANESE CHLORIDE Tetrahydrate
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
Emergency phone number	CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)
Recommended use of the chemical and restrictions on use	Catalyst in the chlorination of organic compounds, paint drier, dyeing, pharmaceutical preparations, fertiliser compositions, feed additive, dietary supplement, Winkler's determination of dissolved oxygen, steel alloy manufacture, other alloys with iron, copper, zinc and aluminium, analytical reagent and laboratory reagent.

Other Names

Name	Product Code
MANGANESE CHLORIDE Tetrahydrate LR	ML042
MANGANESE CHLORIDE Tetrahydrate AR	MA042
Manganese (II) chloride tetrahydrate, Manganous chloride tetrahydrate, Manganese dichloride tetrahydrate	

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 - Long-Term Hazard: Category 2 Acute Toxicity - Oral: Category 4
Signal Word (s)	WARNING
Hazard Statement (s)	H302 Harmful if swallowed. H411 Toxic to aquatic life with long lasting effects.
Pictogram (s)	Environment, Exclamation mark

Precautionary statement – Prevention	P264 Wash thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment.
Precautionary statement – Response	P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P330 Rinse mouth.
Precautionary statement – Disposal	P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Chemical Characterization	Solid

Ingredients

Name	CAS	Proportion	Hazard Symbol	Risk Phrase

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	Manganese Chloride Tetrahydrate	13446-34-9	100 %

4. First-aid measures

Inhalation	Remove victim to fresh air. If breathing has stopped, apply artificial respiration. Seek medical advice if effects persist.
Ingestion	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.
Skin	Wash affected areas with copious quantities of water immediately. If irritation occurs seek medical advice.
Eye contact	Irrigate with copious quantity of water for 15 minutes. Seek medical assistance if symptoms persist.
First Aid Facilities	Maintain eyewash fountain and safety shower 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

Hazards from Combustion Products	May evolve toxic fumes in fire (hydrogen chloride).
Specific Methods	Not combustible. Use measures suitable for extinguishing surrounding fire.
Specific hazards arising from the chemical	Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases. Runoff may pollute waterways.
Precautions in connection with Fire	Wear SCBA and structural firefighter's uniform.

6. Accidental release measures

Personal Precautions	Avoid inhalation and ingestion. Avoid contact with skin, eyes and clothing.
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.
Environmental Precautions	Prevent further leakage or spillage and prevent from entering drains Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for Safe Handling	Avoid generation or accumulation of dusts.
Conditions for safe storage, including any incompatabilities	Store in a cool,dry place. Keep containers closed at all times. Keep container tightly closed and in a cool, well-ventilated place

8. Exposure controls/personal protection

Occupational exposure limit values

Name	STEL		TWA		
	mg/m3	ppm	mg/m3	ppm	Footnote
Manganese Chloride Tetrahydrate			1		Manganese compounds (as Mn)

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 Manganese compounds (as Mn) (Safe Work

	Aust) of 1 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.
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	Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments.
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.
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	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	Rose-coloured crystals.
Odour	Odourless.
Melting Point	58 °C (anhydrous subs.).
Boiling Point	1190 °C (anhydrous). Loss of 1 H2O at 106 °C, loss of all 4 H2O by 198 °C.
Solubility in Water	Very soluble (99 g/l @ 20 °C).
Solubility in Organic Solvents	Soluble in alcohol. Insoluble in ether.
Specific Gravity	1.913
pH	5 - 6 (50 g/l, H2O, 20 °C).
Partition Coefficient: n-octanol/water	LogP (o/w): 0.85
Flammability	Non combustible material.
Molecular Weight	197.91

10. Stability and reactivity

Chemical Stability	Stable under normal conditions of use and storage. Hygroscopic.
Conditions to Avoid	Heat, flames, ignition sources and incompatibles.
Incompatible Materials	Strong acids, hydrogen peroxide, sodium, sodium oxides, potassium and zinc.
Hazardous Decomposition Products	Hydrogen chloride gas, manganese, manganese oxides.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat): 1484 mg/kg (RTECS)
Ingestion	May be harmful if swallowed. May cause abdominal pain and nausea. May produce hypoglycemia and decreased calcium blood levels. Poisonings rarely occur after ingestion of manganese salts, because they are poorly absorbed from the gut.
Inhalation	Irritating to the respiratory tract. Manganese fume is toxic and produces nervous system effects characterised by tiredness. May cause flu-like illness (metal fume fever), which subsides within 24-36 hours following removal from exposure. Symptoms may be delayed for up to 12 hours and begin with the sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms include upper respiratory tract irritation accompanied by coughing and a dryness of hte mucous membranes, lassitude and a generalised feeling of malaise. Mild to severe headache, nausea, occasional vomiting, fever or chills, exaggerated mental activity, profuse sweating, diarrhoea, excessive urination and prostration may also occur. May increase the incidence of upper respiratory infections (chemical pneumonia).
Skin	Causes skin irritation with redness and pain.
Eye	Causes eye irritation, smarting, redness and pain.
Carcinogenicity	No evidence of carcinogenic properties.
Chronic Effects	Chronic manganese poisoning can result from excessive inhalation and ingestion exposure and involves impairment of the central nervous system. Early symptoms include sluggishness, sleepiness and weakness in the legs. Advance cases have shown fixed facial expression, emotional disturbances, spastic gait and falling. Illness closely resembles Parkinson's Disease. Kidney effects, blood changes and manganese psychosis also may occur as a result of chronic exposure. Chronic inhalation exposure can cause lung damage. Prolonged exposure may cause skin reactions.
Mutagenicity	No evidence of mutagenic properties.

12. Ecological information

Ecological Information	Toxic for aquatic organisms.
Bioaccumulative Potential	No bioaccumulation is to be expected (log P(o/w) <1.0). Log P(o/w): 0.85.
Environmental Protection	Do not allow product to enter drains, waterways or sewers. Harmful to aquatic life.

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.

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

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Environment [NOHSC:1003(1995) 3rd Edition]'.

Contact Person/Point

Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT:
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Empirical Formula & Structural Formula

MnCl2.4H2O

...End Of MSDS...