



Centre Anti-Poison pour le Québec: (800) 463-5060

Tél. (Qc): (418) 660-8666 / 800-890-8666


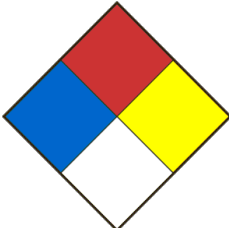
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## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier MANGANESE CHLORIDE 3M		Product Use Laboratory use	
Chemical formula MnCl <sub>2</sub> ·4H <sub>2</sub> O		Product code MS-0330	Molar weight 197,91
Chemical name / Commercial name / Synonymous Winkler soln #1(MnCl <sub>2</sub> ) ; Réactif # 1			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
City Québec		Province Québec	
Postal code G1C 7B7	Internet www.labmat.com	Phone number 418-660-8666 / 800-890-8666	
Emergency phone	CANUTEC: 613-996-6666		CENTRE ANTI-POISON DU QUÉBEC 800-463-5060
Date SDS 7/4/2023	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

## SECTION 02 - HAZARDS IDENTIFICATION

<b>Classification WHIMS / GHS</b>	Serious eye damage/eye irritation - Serious eye damage category 1 Specific Target Organ Toxicity - Repeated exposure category 2 Acute toxicity - Oral category 4
<b>Signal Word</b>	DANGER
<b>Hazards statements (H)</b>	H302 Harmful if swallowed. H318 Causes serious eye damage. H373 May cause damage to organs through prolonged or repeated exposure.
<b>Precautionary statements (P)</b>	P260 Do not breathe dust / fume / gas / mist / vapors / spray. P264 Wash the areas of the body that have been in contact with the product after handling. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. 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. P314 Get medical advice/attention if you feel unwell. P330 Rinse mouth. P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company.
<b>PICTOGRAMS</b>	
<b>Other dangers</b>	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	<b>Health</b> 2 <b>Fire</b> 0 <b>Reactivity</b> 0 <b>Special danger</b>

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Chlorure de manganèse	13446-34-9	40

## SECTION 04 - FIRST AID MEASURES

<b>Eye contact</b>	Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes. If irritation persists, seek medical attention.
<b>Skin contact</b>	Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. If irritation persists, seek medical attention.
<b>Inhalation</b>	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
<b>Ingestion</b>	If the person is conscious, rinse the mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.
<b>Most important symptoms and effects (acute and delayed)</b>	Main symptoms of high exposure: Headaches. Sleep disorder. Sensation of euphoria. Eyes irritation. Ref. section 11.
<b>Immediate medical attention and special treatment, if necessary</b>	In case of medical consultation, keep this sheet available.
<b>General advice</b>	Show this safety data sheet to the doctor in attendance.

## SECTION 05 - FIREFIGHTING MEASURES

<b>Flammability</b>	No
<b>Ignition conditions</b>	Not flammable or combustible.
<b>Suitable extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable extinguishing media</b>	Data not available.
<b>Hazardous combustion products</b>	Hazardous combustion products formed under fire conditions: Hydrogen chloride gas. - Manganese/manganese oxides.
<b>Special fire and explosion hazards</b>	May react violently with incompatible products (Ref Section 10).
<b>Special protective equipment and precautions for firefighters</b>	Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.

## SECTION 06 - ACCIDENTAL RELEASE MEASURES

<b>Methods and materials for containment and cleaning up / Personal precautions, protective equipment</b>	Evacuate personnel to safe areas. Absorb the product with sand or vermiculite. Dilute residues with water, clean and rinse. Ensure a good ventilation of the premises. Dispose of residues in a container for disposal of hazardous materials. When handling, wear suitable safety equipment. Use breathing apparatus if necessary. Do not let product enter drains. Discharge into the environment must be avoided.
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## SECTION 07 - HANDLING AND STORAGE

<b>Conditions for safe storage</b>	Keep container tightly closed in a dry and well-ventilated place. Keep container tightly closed and store away from moisture and incompatible products.
<b>Methods of handling</b>	Avoid contact with the skin, eyes and clothes. Avoid formation of dust and aerosols. Avoid ingestion and inhalation. Provide appropriate exhaust ventilation at places where dust is formed. Wear personal protective equipment when handling. Always ensure good ventilation. Transport according to TDG (ref Section 14)

## SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### Workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Manganese dichloride tetrahydrate	13446-34-9	TWA	0.200000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	TWAEV 5.000000 mg/m3 Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants			
		TWA	0.200000 mg/m3	Canada. British Columbia OEL
	Adverse reproductive effect			
		TWAEV	0.200000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.2 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWAEV	0.2 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.2 mg/m3	Canada. British Columbia OEL
	Adverse reproductive effect			
		TWA	0.200000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		TWA	0.100000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		TWA	0.020000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		TWA	0.1 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		TWA	0.02 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

<b>Data source</b>	Sigma-Aldrich.
<b>Ventilation</b>	Proper ventilation or hood.
<b>Respiratory</b>	If work under the hood is not possible, or if the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.
<b>Gloves</b>	Handle with gloves.
<b>Eyes</b>	Safety goggles with safety shutters.
<b>Shoes</b>	Safety shoes.
<b>Clothing</b>	Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Engineering control</b>	Have safety showers and eyewash stations in the workplace in case of an emergency and a ventilation system to maintain the level of concentrations in the air below the exposure limit values.

## SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid.
Appearance	Liquide rose pâle.
Odour	inodore.
Odour threshold	Data not available
pH	Solution aqueuse 0.2M = pH 5.5.
Melting point / Freezing point	Data not available
Initial boiling point	Data not available
Boiling range	Data not available
Flash point	Data not available
Evaporation rate	Data not available
Flammability	No
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Vapour pressure	Data not available
Solubility	Très soluble dans l'eau 757g/L. Soluble dans l'alcool.
Vapour density	Data not available
Relative density	1.5g/ml (Théorique).
Partition coefficient water/n-octanol	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data not available
Viscosity	Data not available

## SECTION 10 - STABILITY AND REACTIVITY

Reactivity	May react violently with incompatible substances.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	May react violently with incompatible substances.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	This product quickly absorbs moisture from the air.
Incompatible material	When pure, the product reacts with the following products: Strong reducing agents (potassium, sodium, zinc, metal hydrides), strong acids, heat and humidity.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Manganese/manganese oxides.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### MANGANESE (II) CHLORIDE (TETRAHYDRATE)

Routes of exposure	Ingestion and inhalation.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Irritation and tearing.
- Skin	Irritation and dermatitis.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Nervous disorders, chest pain, cough, dyspnea, headache, dizziness, drowsiness, nausea and vomiting.
Acute toxicity (Ingestion)	Irritation of the mucous membranes. Gastrointestinal disorders, cramps, diarrhea, headache, dizziness, tremors, convulsions, nausea and vomiting.
Chronic exposure effects / symptoms	Manganism. Burning sensation, dermatitis, nervous disorders, chest pain, cough, dyspnea, laryngitis, headache, dizziness, drowsiness, confusion, irritability, fatigue, tremors, akinesia, muscle weakness, weight loss and loss of appetite, nausea and vomiting. Target organs: Brain.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 1,484 mg/kg. LD50 Dermal: Data not available.
CL50 (specify species and route of entry)	LC50 - Inhalation - Data not available.

## SUMMARY

Acute exposure effects / Symptoms:	By exposure routes below.
Ingestion	To our knowledge, the product has not been fully evaluated
Inhalation	To our knowledge, the product has not been fully evaluated
Skin	To our knowledge, the product has not been fully evaluated
Eyes	To our knowledge, the product has not been fully evaluated
Chronic exposure effects / Symptoms:	To our knowledge, the product has not been fully evaluated
ETA Mix (Estimated Acute Toxicity)	LD50 Oral: 927 mg/kg - Rat LD50 Dermal: - No data available LC50 Inhalation: 17.5 mg/L - 4h - Rat

## SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	Manganese chloride: Toxicity to algae: Static test: CE50r - Desmodesmus subspicatus (green alga) - 61 mg/l - 72 h.
Persistence and degradability	May persist based on information provided.
Bioaccumulative potential	Data not available.
Mobility in soil	Soluble in water. Probable mobility in the environment due to its solubility in water.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.

## SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method	Dispose of contents / container in accordance with local / regional / national / international regulations / or contact a specialist waste disposal company.
Contaminated Packaging	Dispose of as unused product.

## SECTION 14 - TRANSPORT INFORMATION

UN Number	3082
UN Proper shipping name	MATIÈRE DANGEREUSE DU POINT DE VUE DE L'ENVIRONNEMENT, LIQUIDE, N.S.A
Transport hazard class(es)	9 Miscellaneous dangerous goods/hazardous material
Packing group	III
Limited quantity index	5L
ERAP Index	-
Special precautions	16, 99 (chlorure de manganese)

## SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Serious eye damage/eye irritation - Serious eye damage category 1 Specific Target Organ Toxicity - Repeated exposure category 2 Acute toxicity - Oral category 4
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## SECTION 16 - OTHER INFORMATION

### Further information

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

**Last Update: 7/4/2023**