Preparing for the New Era of Laboratories

MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

MANGANESE (II) CHLORIDE TETRAHYDRATE 98% AR

PRODUCT CODE : O-5117

CAS No : 13446-34-9

FORMULA : $MnCl_2.4\ H_2O$

UN No : 3077

website : www.labotiq.net

MATERIAL SAFETY DATA SHEET (SDS/MSDS)
MANGANESE (II) CHLORIDE TETRAHYDRATE 98% AR

MSDS Number : '0216 | Date : March 20th, 2025 | Version : 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Name : **MANGANESE (II) CHLORIDE TETRAHYDRATE 98% AR**
Synonyms : Manganese dichloride tetrahydrate
CAS No. : 13446-34-9
HS Code : 2827 3990
Chemical Formula : $MnCl_2.4\ H_2O$
Molecular Weight : 197,91 g/mol
Product Code : O-5117
Brand : Labotiq
1.2 Manufacturer : Labotiq
Address : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111
Website : www.labotiq.net
Email : labotiq.id@gmail.com,
For information : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710
Emergency number : +6281316894650
1.3 Application : Laboratory chemicals, Manufacture of substances, General Chemical reagent

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Acute toxicity (oral), Category 4 H302
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411

For the full text of the H-Statements mentioned in this Section, see Section 16

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word	Warning
Hazard statement(s)	
H302 -	Harmful if swallowed.
H411 -	Toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P273 -	Avoid release to the environment.
P305+P351+P338 -	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 -	Dispose of contents and container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Manganese dichloride tetrahydrate
Formula	: $MnCl_2.4\ H_2O$
Molecular weight	: 197,91 g/mol
CAS-No.	: 13446-34-9
EC-No.	: 231-869-6

3.2 Mixture

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Manganese dichloride tetrahydrate CAS-No. 13446-34-9 EC-No. 231-869-6	Acute Tox. 3; Eye Dam. 1; STOT RE 2; H301, H318, H373	<=100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Hydrogen chloride gas, Manganese/manganese oxides, Not combustible. Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Appropriat engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles.

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® L

Splash contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® L

Body Protection

protective clothing

Respiratory protection

required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type: Filter type P3

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: Solid Colour: Crystalline powder.
Odour	Odourless.
Odour Threshold	No data available
pH	4 – 6 (50 g/l at 25°C)
Melting point/freezingpoint	58 °C
Initial boiling point and boiling range	1.190 °C at 1.013 hPa - (anhydrous substance)
Flash point	does not flash
Evaporation rate	No data available
Flammability (solid, gas)	The product is not flammable. - Flammability (solids)
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	2,54 at 21,5 °C - Regulation (EC) No. 440/2008, Annex, A.3
Water solubility	1.980 g/l at 20 °C 757 g/l at 20 °C - Regulation (EC) No. 440/2008, Annex, A.6- completely soluble
Partition coefficient: noctanol/water	Not applicable for inorganic substances
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	No data available

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions
Risk of explosion with:
Alkali metals Zinc

Violent reactions possible with: acids

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
Metals, Light metals

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - female - 236 mg/kg
Remarks: (ECHA)
The value is given in analogy to the following substances: manganese(II) chloride
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye damage. (OECD Test Guideline 405)

Respiratory or skin sensitisation
Local lymph node assay (LLNA) - Mouse
Result: negative (OECD Test Guideline 429)
The value is given in analogy to the following substances: manganese(II) chloride

Germ cell mutagenicity
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Mouse lymphoma test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
The value is given in analogy to the following substances: manganese(II) chloride
Test Type: Micronucleus test
Species: Mouse Cell type: Red blood cells (erythrocytes)
Application Route: Oral

Method: OECD Test Guideline 474
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure. - Brain

Aspiration hazard
No data available

Additional Information
Endocrine disrupting properties
Product: Assessment :
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

RTECS: OO9650000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. After absorption: We have no description of any toxic symptoms. Other dangerous properties can not be excluded. This substance should be handled with particular care. Liver - Irregularities - Based on Human Evidence.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to algae
static test ErC50 - Desmodesmus subspicatus (green algae) - 61 mg/l - 72 h
(OECD Test Guideline 201)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Manganese sulphate (Manganese dichloride tetrahydrate)
semi-static test NOEC - Lemna minor (duckweed) - 30,72 mg/l - 7 d
Remarks: (ECHA)
The value is given in analogy to the following substances: manganese(II) chloride (Manganese dichloride tetrahydrate)

Toxicity to bacteria
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Manganese sulphate (Manganese dichloride tetrahydrate)

12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

12.6 Other adverse effects
No data available

Endocrine disrupting properties
Product:
Assessment :
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 3077 IMDG: 3077 IATA: 3077

14.2 UN proper shipping name
ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
IATA: Environmentally hazardous substance, solid, n.o.s.

14.3 Transport hazard class(es)
ADR/RID: 9 IMDG: 9 IATA: 9

14.4 Packaging group
ADR/RID:III IMDG:III IATA:III

14.5 Environmental hazards
ADR/RID: yes IMDG Marine pollutant: yes IATA: no

14.6 Special precautions for user
Further information
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H301	Toxic if swallowed.
H318	Causes serious eye damage.
H373	May cause damage to organs through prolonged or repeated exposure.

National Fire Protection Association (U.S.A.):

Health: 2
Flammability: 0
Reactivity: 0

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. 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. It does not represent any guarantee of the properties of the product. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.

Version : 1.0
Revision Date : March 20, 2025