



## SAFETY DATA SHEET

# Manganese(II) nitrate tetrahydrate 98+% extra pure

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

Trade name:	Manganese(II) nitrate tetrahydrate 98+% extra pure
Product no.:	MBN83
Other means of identification:	EC No.: 677-704-5 CAS No.: 20694-39-7

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the substance or mixture:	Laboratory use
Uses advised against:	None known.

### 1.3. Details of the supplier of the safety data sheet

Company and address:	<b>Laboratoriumdiscounter</b> Zandvoortstraat 75 1976BN IJmuiden Netherlands Tel: +31 255 700 210 <a href="http://www.laboratoriumdiscounter.nl/en/">www.laboratoriumdiscounter.nl/en/</a>
E-mail:	<a href="mailto:info@laboratoriumdiscounter.nl">info@laboratoriumdiscounter.nl</a>
Revision:	13/03/2023
SDS Version:	1.0

### 1.4. Emergency telephone number

Contact The National Poisons Information Service (dial 111, 24 h service).  
See section 4 "First aid measures".

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

Ox. Sol. 3; H272, May intensify fire; oxidiser.  
Acute Tox. 4; H302, Harmful if swallowed.  
Skin Corr. 1; H314, Causes severe skin burns and eye damage.  
Eye Dam. 1; H318, Causes serious eye damage.  
STOT SE 3; H335, May cause respiratory irritation.  
STOT RE 2; H373, May cause damage to organs through prolonged or repeated exposure.  
Aquatic Chronic 3; H412, Harmful to aquatic life with long lasting effects.

### 2.2. Label elements

Hazard pictogram(s):





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<i>Signal word:</i>	Danger
<i>Hazard statement(s):</i>	May intensify fire; oxidiser. (H272) Harmful if swallowed. (H302) Causes severe skin burns and eye damage. (H314) May cause respiratory irritation. (H335) May cause damage to organs through prolonged or repeated exposure. (H373) Harmful to aquatic life with long lasting effects. (H412)
<i>Safety statement(s):</i>	
<i>General:</i>	-
<i>Prevention:</i>	Do not breathe dust. (P260) Wear eye protection/protective gloves/protective clothing. (P280)
<i>Response:</i>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. (P303+P361+P353) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)
<i>Storage:</i>	Store in a well-ventilated place. Keep container tightly closed. (P403+P233)
<i>Disposal:</i>	Dispose of contents/container in accordance with local regulation. (P501)
<i>Hazardous substances:</i>	Manganese(II) nitrate tetrahydrate
<i>Additional labelling:</i>	Not applicable.
<b>2.3. Other hazards</b>	
<i>Additional warnings:</i>	This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB. This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Product/substance	Identifiers	% w/w	Classification	Note
Manganese(II) nitrate tetrahydrate	CAS No.: 20694-39-7 EC No.: 677-704-5 UK-REACH: Index No.:	95-100%	Ox. Sol. 3, H272 Acute Tox. 4, H302 Skin Corr. 1, H314 STOT SE 3, H335 STOT RE 2, H373	



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			Aquatic Chronic 3, H412	
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### 3.2. Mixtures

Not applicable. This product is a substance.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

### Other information

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## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

#### *General information:*

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet.

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

#### *Inhalation:*

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

#### *Skin contact:*

Flush exposed area with water for a long time - at least 30 minutes. It may be necessary to flush for several hours. Use a comfortable water temperature (20-30 °C). Contact Poison Information/doctor/hospital for further advice on follow-up and treatment.

Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners.

If skin irritation occurs: Get medical advice/attention.

#### *Eye contact:*

Upon irritation of the eye: Remove contact lenses. Flush eyes with plenty of water or salt water (20-30 °C) for at least 30 minutes and continue until irritation stops. Make sure you flush under the upper and lower eyelids. Seek medical assistance immediately and continue flushing during transport.

#### *Ingestion:*

In the case of ingestion, contact a doctor immediately. If the person is conscious, give them water. DO NOT try to induce vomiting unless this is recommended by a doctor. Hold head facing down to prevent vomit returning mouth and throat. Prevent shock by keeping

**Burns:**

the injured person warm and calm. Initiate immediate resuscitation if breathing stops. If unconscious, roll the injured person into recovery position. Call an ambulance.

Rinse with water until pain stops then continue to rinse for 30 minutes.

**4.2. Most important symptoms and effects, both acute and delayed**

Tissue-damaging effects: This product contains substances with skin corrosive properties. Inhaled vapour or aerosols may produce adverse effects to lungs, irritations and burns in the respiratory organs as well as coughing. Dermal contact and contact with the eye cause irreversible effects.

**4.3. Indication of any immediate medical attention and special treatment needed**

IF exposed or concerned:

Get immediate medical advice/attention.

**Information to medics**

Bring this safety data sheet or the label from this product.

**SECTION 5: FIREFIGHTING MEASURES****5.1. Extinguishing media**

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

**5.2. Special hazards arising from the substance or mixture**

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Nitrogen oxides (NO<sub>x</sub>)

Some metal oxides

**5.3. Advice for firefighters**

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact The National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.

Hazchem Code: 1Z

**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1. Personal precautions, protective equipment and emergency procedures**

Storages not yet ignited must be cooled by water mist. Remove flammable materials if conditions allow it. Ensure sufficient ventilation.

Avoid direct contact with spilled substances.

**6.2. Environmental precautions**

Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

**6.3. Methods and material for containment and cleaning up**

Use only non-sparking tools. Clean up manually and place in appropriate containers for disposal. Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.



#### 6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

### SECTION 7: HANDLING AND STORAGE

#### 7.1. Precautions for safe handling

Avoid direct contact with the product.

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

#### 7.2. Conditions for safe storage, including any incompatibilities

Must be stored in a cool and well-ventilated area, away from possible sources of ignition.

*Recommended storage material:*

Always store in containers of the same material as the original container.

*Storage temperature:*

No specific requirements

*Incompatible materials:*

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

#### 7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1. Control parameters

No substances are listed in the national list of substances with an occupational exposure limit.

##### DNEL

No data available.

##### PNEC

No data available.

#### 8.2. Exposure controls

Control is unnecessary if the product is used as intended.

*General recommendations:*

Smoking, drinking and consumption of food is not allowed in the work area.

*Exposure scenarios:*

There are no exposure scenarios implemented for this product.

*Exposure limits:*

Occupational exposure limits have not been defined for the substances in this product.

*Appropriate technical measures:*

Apply standard precautions during use of the product. Avoid inhalation of gas or dust.

*Hygiene measures:*

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Always wash hands, forearms and face.

*Measures to avoid environmental exposure:*

Keep damming materials near the workplace. If possible, collect spillage during work.

#### Individual protection measures, such as personal protective equipment

*Generally:*

Wash contaminated clothing before reuse.



Use only UKCA marked protective equipment.

**Respiratory Equipment:**

Type	Class	Colour	Standards	
SL	P3	White	EN149	

**Skin protection:**

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

**Hand protection:**

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Nitrile	0,3	> 480	EN374-2, EN374-3, EN388	

**Eye protection:**

Type	Standards	
Safety glasses with side shields.	EN166	

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties**

<i>Physical state:</i>	Crystalline
<i>Colour:</i>	Pink
<i>Odour / Odour threshold:</i>	None
<i>pH:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Density (g/cm<sup>3</sup>):</i>	1.82
<i>Kinematic viscosity:</i>	Does not apply to solids.
<i>Particle characteristics:</i>	Testing not relevant or not possible due to the nature of the product.

**Phase changes**

<i>Melting point/Freezing point (°C):</i>	37
<i>Softening point/range (waxes and pastes) (°C):</i>	Does not apply to solids.
<i>Boiling point (°C):</i>	129
<i>Vapour pressure:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Relative vapour density:</i>	Does not apply to solids.
<i>Decomposition temperature (°C):</i>	Testing not relevant or not possible due to



	the nature of the product.
<b>Data on fire and explosion hazards</b>	
<i>Flash point (°C):</i>	Does not apply to solids.
<i>Flammability (°C):</i>	Testing not relevant or not possible due to the nature of the product.
<i>Auto-ignition temperature (°C):</i>	Testing not relevant or not possible due to the nature of the product.
<i>Lower and upper explosion limit (% v/v):</i>	Does not apply to solids.
<b>Solubility</b>	
<i>Solubility in water:</i>	Testing not relevant or not possible due to the nature of the product.
<i>n-octanol/water coefficient:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Solubility in fat (g/L):</i>	Testing not relevant or not possible due to the nature of the product.
<b>9.2. Other information</b>	
<i>Molecular Weight (g/mol):</i>	251,01
<i>Other physical and chemical parameters:</i>	No data available.

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

No data available.

### 10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

None known.

### 10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

### 10.6. Hazardous decomposition products

The product is not degraded when used as specified in section 1.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 as retained and amended in UK law

#### Acute toxicity

Harmful if swallowed.

#### Skin corrosion/irritation

Causes severe skin burns and eye damage.

#### Serious eye damage/irritation

Causes serious eye damage.



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**Respiratory sensitisation**

Based on available data, the classification criteria are not met.

**Skin sensitisation**

Based on available data, the classification criteria are not met.

**Germ cell mutagenicity**

Based on available data, the classification criteria are not met.

**Carcinogenicity**

Based on available data, the classification criteria are not met.

**Reproductive toxicity**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

May cause respiratory irritation.

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**11.2. Information on other hazards****Long term effects**

Tissue-damaging effects: This product contains substances with skin corrosive properties. Inhaled vapour or aerosols may produce adverse effects to lungs, irritations and burns in the respiratory organs as well as coughing. Dermal contact and contact with the eye cause irreversible effects.

**Endocrine disrupting properties**

Not applicable.

**Other information**

None known.

**SECTION 12: ECOLOGICAL INFORMATION****12.1. Toxicity**

No data available.

**12.2. Persistence and degradability**

No data available.

**12.3. Bioaccumulative potential**

No data available.

**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

**12.6. Endocrine disrupting properties**

Not applicable.

**12.7. Other adverse effects**

This product contains substances, which may cause adverse long-term effects to the aquatic environment.





## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

Product is covered by the regulations on hazardous waste.

HP 2 – Oxidising

HP 5 - Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

HP 6 - Acute toxicity

HP 8 – Corrosive

HP 14 – Ecotoxic

Dispose of contents/container to an approved waste disposal plant.

Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

### EWC code

Not applicable.




### Specific labelling

Not applicable.

### Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

## SECTION 14: TRANSPORT INFORMATION

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
ADR	UN2724	MANGANESE NITRATE	Class: 5.1 Labels: 5.1 Classification code: O2 	III	No	Limited quantities: 5 kg Tunnel restriction code: (E) See below for additional information.
IMDG	UN2724	MANGANESE NITRATE	Class: 5.1 Labels: 5.1 Classification code: O2 	III	No	Limited quantities: 5 kg EmS: F-A S-Q See below for additional information.
IATA	UN2724	MANGANESE NITRATE	Class: 5.1 Labels: 5.1 Classification code: O2 	III	No	See below for additional information.

\* Packing group

\*\* Environmental hazards



## Additional information

ADR / See Table A, Section 3.2.1 for any information on special provisions, requirements, or warnings in connection with transport. See section 5.4.3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.

IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.

IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.

This product is within scope of the regulations of transport of dangerous goods.

Hazchem Code: 1Z

### 14.6. Special precautions for user

Not applicable.

### 14.7. Maritime transport in bulk according to IMO instruments

No data available.

## SECTION 15: REGULATORY INFORMATION

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

*Restrictions for application:*

Restricted to professional users.

People under the age of 18 shall not be exposed to this product.

Pregnant women and women breastfeeding must not be exposed to this product. The risk, and possible technical precautions or design of the workplace needed to eliminate exposure, must be considered.

*Demands for specific education:*

No specific requirements.

*SEVESO - Categories / dangerous substances:*

P8 - OXIDISING LIQUIDS AND SOLIDS,  
Qualifying quantity (lower-tier): 50 tonnes /  
(upper-tier): 200 tonnes

*Additional information:*

Not applicable.

*Sources:*

The Management of Health and Safety at Work Regulations 1999.  
The Health and Safety at Work etc. Act 1974  
Regulations 2013.  
Control of Major Accident Hazards (COMAH) Regulations 2015.  
Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.  
Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) as retained and amended in UK law.  
Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as retained and amended in UK law.

### 15.2. Chemical safety assessment



No

## SECTION 16: OTHER INFORMATION

### Full text of H-phrases as mentioned in section 3

H272, May intensify fire; oxidiser.

H302, Harmful if swallowed.

H314, Causes severe skin burns and eye damage.

H335, May cause respiratory irritation.

H373, May cause damage to organs through prolonged or repeated exposure.

H412, Harmful to aquatic life with long lasting effects.

### Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS = Chemical Abstracts Service

CE = Conformité Européenne

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

CSA = Chemical Safety Assessment

CSR = Chemical Safety Report

DMEL = Derived Minimal Effect Level

DNEL = Derived No Effect Level

EINECS = European Inventory of Existing Commercial chemical Substances

ES = Exposure Scenario

EUH statement = CLP-specific Hazard statement

EWC = European Waste Catalogue

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IARC = International Agency for Research on Cancer (IARC)

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

OECD = Organisation for Economic Co-operation and Development

PBT = Persistent, Bioaccumulative and Toxic

PNEC = Predicted No Effect Concentration

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

RRN = REACH Registration Number

SCL = A specific concentration limit

SVHC = Substances of Very High Concern

STOT-RE = Specific Target Organ Toxicity - Repeated Exposure

STOT-SE = Specific Target Organ Toxicity - Single Exposure

TWA = Time weighted average

UN = United Nations

UVBC = Unknown or variable composition, complex reaction products or of biological materials

VOC = Volatile Organic Compound

vPvB = Very Persistent and Very Bioaccumulative

### Additional information



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The classification of the substance/mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

The classification of the substance/mixture in regard of environmental hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

The classification of the mixture in regard to physical hazards has been based on experimental data.

**The safety data sheet is validated by**

Chris

**Other**

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product.

Information in this safety data sheet cannot be used as a product specification.

Country-language: GB-en