

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Manganese(II) chloride tetrahydrate pure**

Revision: 16.09.2025

Product code: 15279

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Manganese(II) chloride tetrahydrate pure

REACH Registration Number: 01-2119934899-15-XXXX

CAS No: 13446-34-9

EC No: 231-869-6

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

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

Company name: AnalytiChem GmbH

ACD

Street: Stempelstraße 6

Place: D-47167 Duisburg

Telephone: 0203/5194-0

Telefax: 0203/5194-290

E-mail: info@analytichem.de

Contact person: Abteilung Produktsicherheit

Telephone: 0203/5194-107/117

E-mail: produktsicherheit@analytichem.de

Internet: www.analytichem.de

Responsible Department: Abteilung Produktsicherheit

**1.4. Emergency telephone number:**

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

**Further Information**

No data available

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Acute Tox. 3; H301

Eye Dam. 1; H318

STOT RE 2; H373

Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008**

Signal word: Danger

Pictograms:



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#### Hazard statements

H301 Toxic if swallowed.  
H318 Causes serious eye damage.  
H373 May cause damage to organs (brain) through prolonged or repeated exposure if inhaled.  
H411 Toxic to aquatic life with long lasting effects.

#### Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P391 Collect spillage.

#### 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Sum formula: MnCl<sub>2</sub> \* 4 H<sub>2</sub>O  
Molecular weight: 197,91 g/mol

#### Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
Classification (Regulation (EC) No 1272/2008)				
13446-34-9	Manganese(II) chloride tetrahydrate			100 %
	231-869-6		01-2119934899-15-XXXX	
	Acute Tox. 3, Eye Dam. 1, STOT RE 2, Aquatic Chronic 2; H301 H318 H373 H411			

Full text of H and EUH statements: see section 16.

#### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
Specific Conc. Limits, M-factors and ATE			
13446-34-9	231-869-6	Manganese(II) chloride tetrahydrate	100 %
	oral: LD50 = 2330 mg/kg		

#### Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

No data available

#### After inhalation

Provide fresh air.

Call a physician immediately.

#### After contact with skin

Wash immediately with: Water

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Take off immediately all contaminated clothing and wash it before reuse.

In case of skin irritation, consult a physician.

#### After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Consult an ophthalmologist.

#### After ingestion

Rinse mouth immediately and drink plenty of water.

Call a physician immediately.

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

No data available

#### 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**

Co-ordinate fire-fighting measures to the fire surroundings.

##### **Unsuitable extinguishing media**

no restriction

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

Non-combustible solids

Hazardous combustion products

In case of fire may be liberated:

Hydrogen chloride (HCl)

Metal oxide smoke, toxic

#### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Avoid contact with skin, eyes and clothes.

#### **Additional information**

Use water spray jet to protect personnel and to cool endangered containers.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

## SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### **For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

##### **For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

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

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#### For containment

Cover drains.  
Prevent spread over a wide area (e.g. by containment or oil barriers).  
Collect in closed and suitable containers for disposal.  
Take up carefully when dry. Take up dust-free and set down dust-free.

#### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

#### Other information

Provide adequate ventilation.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

#### **6.4. Reference to other sections**

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

## SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

Avoid dust formation.  
Do not breathe dust.  
Read label before use.

##### **Advice on protection against fire and explosion**

No special fire protection measures are necessary.

##### **Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

##### **Further information on handling**

Draw up and observe skin protection programme.  
Wash hands and face before breaks and after work and take a shower if necessary.  
Take off immediately all contaminated clothing and wash it before reuse.

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

##### **Requirements for storage rooms and vessels**

Store in a dry place.  
Unsuitable container/equipment material: Metal, Light metal

##### **Hints on joint storage**

national regulations

##### **Further information on storage conditions**

Keep container tightly closed.  
storage temperature +5°C - +30°C

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

Laboratory chemicals

## SECTION 8: Exposure controls/personal protection

#### **8.1. Control parameters**

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**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
DNEL type				
13446-34-9	Manganese(II) chloride tetrahydrate			
Worker DNEL, long-term		inhalation	systemic	0,2 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	0,004 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,043 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	0,002 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,15 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
Environmental compartment		
13446-34-9	Manganese(II) chloride tetrahydrate	
Freshwater		0,013 mg/l
Freshwater (intermittent releases)		0,03 mg/l
Marine water		0 mg/l
Freshwater sediment		0,011 mg/kg
Marine sediment		0,001 mg/kg
Micro-organisms in sewage treatment plants (STP)		20,4 mg/l
Soil		14,8 mg/kg

**8.2. Exposure controls****Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide adequate ventilation as well as local exhaustion at critical locations.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Suitable eye protection: goggles.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Trade name/designation KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

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By short-term hand contact

Trade name/designation KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### Skin protection

Wear suitable protective clothing.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

#### Respiratory protection

Respiratory protection necessary at: dust formation

Filtering device with filter or ventilator filtering device of type: P2

The entrepreneur 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.

#### Environmental exposure controls

Do not allow to enter into surface water or drains.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	pink
Odour:	odourless
Odour threshold:	not determined
Melting point/freezing point:	58 / 650 °C
Boiling point or initial boiling point and boiling range:	1190 (1013 hPa) °C
Flammability:	not determined
Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Flash point:	not applicable
Auto-ignition temperature:	not determined
Decomposition temperature:	106-198 °C
pH-Value (at 25 °C):	3,5 - 6 (50 g/l)
Viscosity / kinematic:	not determined
Water solubility: (at 20 °C)	1980 g/l
Solubility in other solvents	
not determined	
Dissolution rate:	not determined
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	not determined
Vapour pressure:	No data available
Vapour pressure:	not determined
Density:	2,01 g/cm³
Relative density:	not determined

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Bulk density:	1150 kg/m <sup>3</sup>
Relative vapour density:	not determined
Particle characteristics:	not determined

#### **9.2. Other information**

##### **Information with regard to physical hazard classes**

###### **Explosive properties**

No data available

###### **Sustained combustibility:**

No data available

###### **Self-ignition temperature**

Solid:

not determined

Gas:

not applicable

###### **Oxidizing properties**

No data available

##### **Other safety characteristics**

###### **Evaporation rate:**

not determined

###### **Solvent separation test:**

not determined

###### **Solvent content:**

not determined

###### **Solid content:**

100%

###### **Sublimation point:**

not determined

###### **Softening point:**

not determined

###### **Pour point:**

not determined

###### **not determined:**

###### **Viscosity / dynamic:**

not determined

###### **Flow time:**

not determined

##### **Further Information**

not determined

## SECTION 10: Stability and reactivity

#### **10.1. Reactivity**

No data available

#### **10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

#### **10.3. Possibility of hazardous reactions**

Alkali metals

Zinc

Acid

#### **10.4. Conditions to avoid**

Heat

#### **10.5. Incompatible materials**

Metal

Light metal

#### **10.6. Hazardous decomposition products**

In case of fire may be liberated:

SECTION 5: Firefighting measures

##### **Further information**

No data available

## SECTION 11: Toxicological information

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**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

Toxic if swallowed.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
13446-34-9	Manganese(II) chloride tetrahydrate				
	oral	LD50 mg/kg	2330 Mouse	Indian Journal of Pharmacology, 23(3): 1	In all tests trace metal salts were diss

**Irritation and corrosivity**

Serious eye damage/eye irritation: Causes serious eye damage.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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**

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

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure. (Manganese(II) chloride tetrahydrate)

**Aspiration hazard**

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

**Information on likely routes of exposure**

No data available

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards****Endocrine disrupting properties**

No data available

**Other information**

No data available

**Further information**

No data available

**SECTION 12: Ecological information****12.1. Toxicity**

Toxic to aquatic life with long lasting effects.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
13446-34-9	Manganese(II) chloride tetrahydrate					
	Acute fish toxicity	LC50 49,9 mg/l	96 h	Salmo trutta	Federal aid Project #F-243, Colorado Div	A flow-through toxicity test using a mod
	Acute algae toxicity	ErC50 61 mg/l	72 h	Desmodesmus subspicatus	Study report (2010)	OECD Guideline 201
	Acute crustacea toxicity	EC50 9,8 mg/l	48 h	Daphnia magna	Journal of the Fisheries Research Board	The toxicity of manganese chloride to Da
	Fish toxicity	NOEC 0,55 mg/l	65 d	Salvelinus fontinalis	Federal aid project #F-243R-5, , Colorad	OECD Guideline 210
	Crustacea toxicity	NOEC 0,02 mg/l	14 d	other aquatic mollusc: Crassostrea gigas	Bull. Environ. Contam. Toxicol. 31, 344-35	The effects of up to eight elements, inc
	Acute bacteria toxicity	EC50 > 1000 mg/l ( )	3 h	activated sludge of a predominantly domestic sewag	Study report (2010)	OECD Guideline 209

**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 does not meet the PBT/vPvB criteria of REACH, annex XIII.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

Discharge into the environment must be avoided.

**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations. Do not empty into drains.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**SECTION 14: Transport information**

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#### Land transport (ADR/RID)

<b>14.1. UN number or ID number:</b>	UN 3288
<b>14.2. UN proper shipping name:</b>	TOXIC SOLID, INORGANIC, N.O.S. (Manganese(II) chloride tetrahydrate)
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	III
Hazard label:	6.1
Classification code:	T5
Special Provisions:	274
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	2
Hazard No:	60
Tunnel restriction code:	E

#### Inland waterways transport (ADN)

<b>14.1. UN number or ID number:</b>	UN 3288
<b>14.2. UN proper shipping name:</b>	TOXIC SOLID, INORGANIC, N.O.S. (Manganese(II) chloride tetrahydrate)
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	III
Hazard label:	6.1
Classification code:	T5
Special Provisions:	274 802
Limited quantity:	5 kg
Excepted quantity:	E1

#### Marine transport (IMDG)

<b>14.1. UN number or ID number:</b>	UN 3288
<b>14.2. UN proper shipping name:</b>	TOXIC SOLID, INORGANIC, N.O.S. (Manganese(II) chloride tetrahydrate)
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	III
Hazard label:	6.1
Special Provisions:	223, 274
Limited quantity:	5 kg
Excepted quantity:	E1
EmS:	F-A, S-A

#### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number or ID number:</b>	UN 3288
<b>14.2. UN proper shipping name:</b>	TOXIC SOLID, INORGANIC, N.O.S. (Manganese(II) chloride tetrahydrate)
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	III
Hazard label:	6.1
Special Provisions:	A3 A5
Limited quantity Passenger:	10 kg
Passenger LQ:	Y645
Excepted quantity:	E1
IATA-packing instructions - Passenger:	670
IATA-max. quantity - Passenger:	100 kg
IATA-packing instructions - Cargo:	677
IATA-max. quantity - Cargo:	200 kg

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:	Yes
Danger releasing substance:	Manganese(II) chloride tetrahydrate

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

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not applicable

## SECTION 15: Regulatory information

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

#### EU regulatory information

Information according to Directive 2012/18/EU (SEVESO III):

Additional information: E2

#### National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 3 - highly hazardous to water

### 15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

## SECTION 16: Other information

#### Changes

This data sheet contains changes from the previous version in section(s): 9,12.

#### Abbreviations and acronyms

Acute Tox. 3: Acute toxicity, hazard category 3

Eye Dam. 1: Serious eye damage, hazard category 1

STOT RE 2: Specific target organ toxicity - repeated exposure, hazard category 2

Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road )

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

#### Relevant H and EUH statements (number and full text)

H301	Toxic if swallowed.
H318	Causes serious eye damage.
H373	May cause damage to organs (brain) through prolonged or repeated exposure if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

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The receiver of our product is singularly responsible for adhering to existing laws and regulations.  
Provide appropriate information, instructions and training to users