

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Manganese(II) chloride tetrahydrate for analysis

Revision date: 12.11.2024

Product code: 06176

Page 1 of 11

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

1.1. Product identifier

Manganese(II) chloride tetrahydrate for analysis

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**

Laboratory chemical

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

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:**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Manganese(II) chloride tetrahydrate for analysis

Revision date: 12.11.2024

Product code: 06176

Page 2 of 11

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: MnCl₂ * 4 H₂O
- Molecular weight: 197,91 g/mol

Relevant ingredients

CAS No	Chemical name	Quantity
	EC No	Index No
	Classification (Regulation (EC) No 1272/2008)	REACH No
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
- Take off immediately all contaminated clothing and wash it before reuse.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Manganese(II) chloride tetrahydrate for analysis

Revision date: 12.11.2024

Product code: 06176

Page 3 of 11

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

For containment

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Manganese(II) chloride tetrahydrate for analysis

Revision date: 12.11.2024

Product code: 06176

Page 4 of 11

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

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Manganese(II) chloride tetrahydrate for analysis

Revision date: 12.11.2024

Product code: 06176

Page 5 of 11

DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
13446-34-9	Manganese(II) chloride tetrahydrate		
Worker DNEL, long-term	inhalation	systemic	0,2 mg/m ³
Worker DNEL, long-term	dermal	systemic	0,004 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,043 mg/m ³
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	
Environmental compartment	Value	
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 exhaust 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

By short-term hand contact

Trade name/designation KCL 741 Dermatril® L

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Manganese(II) chloride tetrahydrate for analysis

Revision date: 12.11.2024

Product code: 06176

Page 6 of 11

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).

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/cm ³
Relative density:	not determined
Bulk density:	1150 kg/m ³
Relative vapour density:	not determined
Particle characteristics:	not determined

9.2. Other information

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Manganese(II) chloride tetrahydrate for analysis

Revision date: 12.11.2024

Product code: 06176

Page 7 of 11

Information with regard to physical hazard classes

Explosive properties

No data available

Sustaining combustion:

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

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Manganese(II) chloride tetrahydrate for analysis

Revision date: 12.11.2024

Product code: 06176

Page 8 of 11

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
13446-34-9	Manganese(II) chloride tetrahydrate				
	oral	LD50 2330 mg/kg	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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Manganese(II) chloride tetrahydrate for analysis

Revision date: 12.11.2024

Product code: 06176

Page 9 of 11

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

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

Land transport (ADR/RID)

14.1. UN number or ID number:

UN 3288

14.2. UN proper shipping name:

TOXIC SOLID, INORGANIC, N.O.S. (Manganese(II) chloride tetrahydrate)

14.3. Transport hazard class(es):

6.1

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Manganese(II) chloride tetrahydrate for analysis

Revision date: 12.11.2024

Product code: 06176

Page 10 of 11

14.4. Packing group: 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)

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

Marine transport (IMDG)

14.1. UN number or ID number: UN 3288
14.2. UN proper shipping name: TOXIC SOLID, INORGANIC, N.O.S. (Manganese(II) chloride tetrahydrate)
14.3. Transport hazard class(es): 6.1
14.4. Packing group: 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)

14.1. UN number or ID number: UN 3288
14.2. UN proper shipping name: TOXIC SOLID, INORGANIC, N.O.S. (Manganese(II) chloride tetrahydrate)
14.3. Transport hazard class(es): 6.1
14.4. Packing group: 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

not applicable

SECTION 15: Regulatory information

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Manganese(II) chloride tetrahydrate for analysis

Revision date: 12.11.2024

Product code: 06176

Page 11 of 11

EU regulatory information

Information according to Directive
2012/18/EU (SEVESO III): H2 ACUTE TOXIC
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): 1,2,9,11,12,13,15.

Abbreviations and acronyms

Acute Tox: Acute toxicity
Eye Dam: Eye damage
STOT RE: Specific target organ toxicity - repeated exposure
Aquatic Chronic: Chronic aquatic hazard
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.
The receiver of our product is singularly responsible for adhering to existing laws and regulations. Provide appropriate information, instructions and training to users