

according to Regulation (EC) No 1907/2006

# Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 1 of 13

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

#### 1.1. Product identifier

Manganese(II) chloride.4aq

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

## Details of the supplier of the safety data sheet

Company name: AnalytiChem Services, Unipessoal, Lda Street: Rua de Júlio Dinis 676 7°

Street: Rua de Júlio Dinis 676 7'
Place: P-4050-320 Porto
Telephone: +351 226002917
E-mail: info@analytichem.com
Contact person: SDS service department
E-mail: SDS@analytichem.com
Internet: www.analytichem.com
Responsible Department: SDS service department

Supplier or manufacturer details

Company name: AnalytiChem GmbH
Street: Stempelstraße 6
Place: D-47167 Duisburg
Telephone: 0203/5194-0

E-mail: info@analytichem.de
Contact person: SDS service department
E-mail: SDS@analytichem.com
Internet: www.analytichem.de

Responsible Department: AnalytiChem:

EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem,

Telefax: 0203/5194-290

Belgium, +32 50 28 83 20

EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg,

Germany, +49 203 51 94 - 200

EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG

Mijdrecht, The Netherlands, +31 297 286848

UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester,

OX26 4XB, England, +44 1869 355 500

USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States,

+1 800-244-8378

Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X

4B6, Canada, +1 514-457-0701

Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater

North, 3153, Australia, +61 3 9729 0333

**1.4. Emergency telephone** +353 1 901 4670 (CHEMTREC)

number:



according to Regulation (EC) No 1907/2006

## Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 2 of 13

#### **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:









## **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



# **Safety Data Sheet**

according to Regulation (EC) No 1907/2006

## Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 3 of 13

#### 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			
	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.

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



# **Safety Data Sheet**

according to Regulation (EC) No 1907/2006

## Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 4 of 13

## 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 (HCI)

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).

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.



according to Regulation (EC) No 1907/2006

# Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 5 of 13

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

#### **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/m³			
Worker DNEL, long-term		dermal	systemic	0,004 mg/kg bw/day			
Consumer DNEL, long-term		inhalation	systemic	0,043 mg/m³			
Consumer DNEL, long-term		dermal	systemic	0,002 mg/kg bw/day			
Consumer DNEL, acute		oral	systemic	0,15 mg/kg bw/day			



according to Regulation (EC) No 1907/2006

# Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 6 of 13

#### **PNEC values**

CAS No	Substance				
Environmental compartment Value					
13446-34-9	Manganese(II) chloride tetrahydrate				
Freshwater 0,01					
Freshwater (intermittent releases) 0,03 mg/l					
Marine water 0 mg/l					
Freshwater sediment 0					
Marine sedime	0,001 mg/kg				
Micro-organisms in sewage treatment plants (STP)					
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

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).

## 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.



## **Safety Data Sheet**

according to Regulation (EC) No 1907/2006

## Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 7 of 13

#### Respiratory protection

Respiratory protection necessary at: dust formation

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

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.

#### **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 1190 (1013 hPa) °C

boiling range:

not determined Flammability: not applicable Lower explosion limits: Upper explosion limits: not applicable not applicable Flash point: not determined Auto-ignition temperature: Decomposition temperature: 106-198 °C 3.5 - 6 (50 g/I)pH-Value (at 25 °C): not determined Viscosity / kinematic: Water solubility: 1980 g/l

(at 20 °C)

Solubility in other solvents not determined

not determined Dissolution rate: No data available Partition coefficient n-octanol/water: not determined Dispersion stability: No data available Vapour pressure: not determined Vapour pressure: Density: 2.01 a/cm3 not determined Relative density: Bulk density: 1150 kg/m<sup>3</sup> not determined Relative vapour density: 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



according to Regulation (EC) No 1907/2006

## Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 8 of 13

Evaporation rate:

Solvent separation test:

Solvent content:

Solid content:

Sublimation point:

Softening point:

Pour point:

not determined

not determined

not determined

not determined

not determined

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

## Toxicocinetics, 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						
		LD50 mg/kg	2330			In all tests trace metal salts were diss	



# **Safety Data Sheet**

according to Regulation (EC) No 1907/2006

# Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 9 of 13

## 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.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 10 of 13

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	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 mg/l	0,55	65 d	Salvelinus fontinalis	Federal aid project #F-243R-5, , Colorad	OECD Guideline 210
	Crustacea toxicity	NOEC mg/l	0,02	14 d	other aquatic mollusc: Crassostrea gigas	Bull. Environ.Contam.T oxicol. 31, 344-35	The effects of up to eight elements, inc
	Acute bacteria toxicity	EC50 mg/l ( )	> 1000	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**



according to Regulation (EC) No 1907/2006

## Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 11 of 13

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): 14.4. Packing group: Ш Hazard label: 6.1 T5 Classification code: 274 **Special Provisions:** 5 kg Limited quantity: Excepted quantity: E1 2 Transport category: 60 Hazard No: Ε Tunnel restriction code:

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):6.114.4. Packing group:IIIHazard label:6.1Classification code:T5Special Provisions:274 802Limited quantity:5 kgExcepted 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):6.114.4. Packing group:IIIHazard label:6.1Special Provisions:223, 274Limited quantity:5 kgExcepted quantity:E1EmS: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):6.114.4. Packing group:IIIHazard label:6.1Special Provisions:A3 A5Limited quantity Passenger:10 kgPassenger LQ:Y645Excepted quantity:E1

IATA-packing instructions - Passenger:670IATA-max. quantity - Passenger:100 kgIATA-packing instructions - Cargo:677IATA-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



according to Regulation (EC) No 1907/2006

# Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 12 of 13

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 H2 ACUTE TOXIC

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): 1,2,9,11,12,13,15.

## 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.



according to Regulation (EC) No 1907/2006

# Manganese(II) chloride.4aq

Revision: 12.11.2024 Product code: AC14.00212 Page 13 of 13

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