

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.12.2011

Version number 1

Revision: 14.12.2011

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

- 1.1. Product identifier
- Trade name: Manganese(II) choride*4H₂O
- Article number: 28403
- CAS Number:
13446-34-9
- EC number:
231-869-6
- 1.2. Relevant identified uses of the substance or mixture and uses advised against
- Application of the substance / the preparation Laboratory chemicals
- 1.3. Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de
- Information department: Product Safety department Tel.: +49 6221 13840-35
- 1.4. Emergency telephone number: +49 6131 19240 (university hospital Mainz)

SERVA
Electrophoresis

2 Hazards identification

- 2.1. Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008

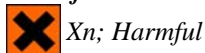


GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R22: Harmful if swallowed.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- Classification system:

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

- 2.2. Label elements

- Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

- Hazard pictograms GHS07

- Signal word Warning

- Hazard statements

H302 Harmful if swallowed.

H412 Harmful to aquatic life with long lasting effects.

- Precautionary statements

P273 Avoid release to the environment.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

P391 Collect spillage.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

GB

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.12.2011

Version number 1

Revision: 14.12.2011

Trade name: **Manganese(II) choride*4H₂O**

(Contd. of page 1)

- **2.3. Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

* 3 Composition/information on ingredients

- **3.1. Chemical characterization: Substances**
- **CAS No. Description:**
13446-34-9 Manganese dichloride tetrahydrate
- **Identification number(s):**
- **EC number:** 231-869-6
- **Description:**
- **Empirical formula:** Mn Cl₂ * 4 H₂O
- **MW:** 197,91

* 4 First aid measures

- **4.1. Description of first aid measures**
- **General information**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Immediately rinse with water.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** Drink copious amounts of water and provide fresh air. Call for doctor immediately.
- **Information for doctor**
- **4.2. Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3. Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

* 5 Firefighting measures

- **5.1. Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2. Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3. Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

* 6 Accidental release measures

- **6.1. Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **6.2. Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3. Methods and material for containment and cleaning up:**
Pick up mechanically.
Dispose contaminated material as waste according to item 13.
- **6.4. Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

GB

(Contd. on page 3)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.12.2011

Version number 1

Revision: 14.12.2011

Trade name: Manganese(II) choride*4H₂O

(Contd. of page 2)

7 Handling and storage

- **Handling**
- **7.1. Precautions for safe handling** Prevent formation of dust.
- **Information about protection against explosions and fires:** The product is not flammable
- **7.2. Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store receptacle in a well ventilated area.
Store in dry conditions.
- **7.3. Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

8.1. Control parameters

- **Components with limit values that require monitoring at the workplace:**

13446-34-9 Manganese dichloride tetrahydrate (80-100%)

WEL	Long-term value: 5 mg/m ³ as Mn
-----	---

- **Additional information:** The lists that were valid during the creation were used as basis.

8.2. Exposure controls

- **Personal protective equipment**
- **General protective and hygienic measures**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
- **Breathing equipment:**
Short term filter device:
Filter P2.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
Natural rubber, NR
Nitrile rubber, NBR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

GB

(Contd. on page 4)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.12.2011

Version number 1

Revision: 14.12.2011

Trade name: Manganese(II) choride*4H₂O

(Contd. of page 3)

9 Physical and chemical properties

· 9.1. Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Crystalline powder

Colour: Pink

· Odour: Odourless

· pH-value (50 g/l) at 20°C: 4 - 6

· Change in condition

Melting point/Melting range: undetermined

Boiling point/Boiling range: undetermined

· Flash point: Not applicable

· Flammability (solid, gaseous) Product is not flammable.

· Danger of explosion: Product does not present an explosion hazard.

· Density at 20°C: 2.01 g/cm³

· Bulk density at 20°C: ca. 1150 kg/m³

· Solubility in / Miscibility with

Water at 20°C: 1980 g/l

· 9.2. Other information No further relevant information available.

10 Stability and reactivity

· 10.1. Reactivity

· 10.2. Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· 10.3. Possibility of hazardous reactions Reacts with strong acids

· 10.4. Conditions to avoid No further relevant information available.

· 10.5. Incompatible materials: Sodium/Sodium oxides, zinc

· 10.6. Hazardous decomposition products:

Hydrogen chloride (HCl)

Manganese oxides

11 Toxicological information

· 11.1. Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

Oral	LD50	1484 mg/kg (rat)
------	------	------------------

· Primary irritant effect:

· on the skin: No irritant effect.

· on the eye: No irritating effect.

· Sensitization: No sensitizing effects known.

12 Ecological information

· 12.1. Toxicity

· Aquatic toxicity:

EC50/48h	> 11 mg/l (Daphnia magna)
----------	---------------------------

· 12.2. Persistence and degradability No further relevant information available.

(Contd. on page 5)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.12.2011

Version number 1

Revision: 14.12.2011

Trade name: **Manganese(II) choride*4H₂O**

(Contd. of page 4)

- **Behaviour in environmental systems:**
- **12.3. Bioaccumulative potential** No further relevant information available.
- **12.4. Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Harmful to aquatic organisms
- **12.5. Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.
- **12.6. Other adverse effects** No further relevant information available.

13 Disposal considerations

- **13.1. Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|--|--|
| · 14.1. UN-Number
· ADR, ADN, IMDG, IATA | Void |
| · 14.2. UN proper shipping name
· ADR, ADN, IMDG, IATA | Void |
| · 14.3. Transport hazard class(es)
· ADR, ADN, IMDG, IATA
· Class | Void |
| · 14.4. Packing group
· ADR, IMDG, IATA | Void |
| · 14.5. Environmental hazards:
· Marine pollutant: | Not applicable.
No |
| · 14.6. Special precautions for user | Not applicable. |
| · 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | - |

15 Regulatory information

- **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Water hazard class:** Water hazard class 1 (Assessment by list): slightly hazardous for water.

(Contd. on page 6)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.12.2011

Version number 1

Revision: 14.12.2011

Trade name: Manganese(II) choride*4H₂O

(Contd. of page 5)

· **15.2. Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Product safety department

· **Contact:** +49 6221 13840-35

· **Abbreviations and acronyms:**

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

CLP: Regulation on classification, labelling and packaging of substances and mixtures

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

· *** Data compared to the previous version altered.**

GB