



## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product name : Manganese(II) chloride tetrahydrate

CAS-No. : 13446-34-9

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

Company : Cater Chemicals Corporation  
30 Monaco Drive  
Roselle, IL 60172

Telephone : +1 630-980-2300

Fax : +1 630-980-2323

### 1.4 Emergency telephone number

Emergency Phone # : CHEMTREK: (800)-424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Acute aquatic toxicity (Category 3), H402

Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H302

Harmful if swallowed.

H412

Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P264

Wash skin thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P273

Avoid release to the environment.

P301 + P312 + P330

IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P501

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

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Formula :  $\text{Cl}_2\text{Mn} \cdot 4\text{H}_2\text{O}$   
Molecular weight : 197.91 g/mol  
CAS-No. : 13446-34-9  
EC-No. : 231-869-6

#### Hazardous components

| Component                                | Classification                               | Concentration |
|--|--|---------------|
| <b>Manganese dichloride tetrahydrate</b> |  |               |
|  | Acute Tox. 4; Aquatic Acute 3;<br>H302, H402 | <= 100 %      |

For the full text of the H-Statements mentioned in this Section, see Section 16.

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### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

##### In case of eye contact

Flush eyes with water as a precaution.

##### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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### 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Hydrogen chloride gas, Manganese/manganese oxides

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

No data available

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### 6. ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

For personal protection see section 8.

#### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): Non Combustible Solids

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

| Component                         | CAS-No.    | Value   | Control parameters | Basis  |
|-----------------------------------|------------|---|--------------------|--|
| Manganese dichloride tetrahydrate | 13446-34-9 | C   | 5.000000 mg/m3     | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|                                   | Remarks    | Ceiling limit is to be determined from breathing-zone air samples.  |                    |  |
|                                   |            | TWA   | 0.200000 mg/m3     | USA. ACGIH Threshold Limit Values (TLV)  |
|                                   |            | Central Nervous System impairment<br>Adopted values or notations enclosed are those for which changes are proposed in the NIC<br>See Notice of Intended Changes (NIC)<br>varies |                    |  |
|                                   |            | TWA   | 1.000000 mg/m3     | USA. NIOSH Recommended Exposure Limits   |
|                                   |            | ST  | 3.000000 mg/m3     | USA. NIOSH Recommended Exposure Limits   |
|                                   |            | TWA   | 0.100000 mg/m3     | USA. ACGIH Threshold Limit Values (TLV)  |
|                                   |            | Central Nervous System impairment<br>2014 Adoption<br>varies  |                    |  |
|                                   |            | TWA   | 0.020000 mg/m3     | USA. ACGIH Threshold Limit Values (TLV)  |
|                                   |            | Central Nervous System impairment<br>2014 Adoption<br>varies  |                    |  |
|                                   |            | TWA   | 0.1 mg/m3          | USA. ACGIH Threshold Limit Values (TLV)  |
|                                   |            | Central Nervous System impairment<br>varies   |                    |  |
|                                   |            | TWA   | 0.02 mg/m3         | USA. ACGIH Threshold Limit Values (TLV)  |
|                                   |            | Central Nervous System impairment<br>varies   |                    |  |

## 8.2 Exposure controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

#### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

#### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

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|--|--|
| a) Appearance                              | Form: crystalline<br>Colour: light red     |
| b) Odour                                   | No data available                          |
| c) Odour Threshold                         | No data available                          |
| d) pH                                      | 4.0 - 6 at 99 g/l at 25 °C (77 °F)         |
| e) Melting point/freezing point            | Melting point/range: 58 °C (136 °F) - lit. |
| f) Initial boiling point and boiling range | No data available                          |
| g) Flash point                             | No data available                          |

|    |  |  |
|----|--|--|
| h) | Evaporation rate                             | No data available                            |
| i) | Flammability (solid, gas)                    | No data available                            |
| j) | Upper/lower flammability or explosive limits | No data available                            |
| k) | Vapour pressure                              | No data available                            |
| l) | Vapour density                               | No data available                            |
| m) | Relative density                             | 1.913 g/cm <sup>3</sup>                      |
| n) | Water solubility                             | 99 g/l at 20 °C (68 °F) - completely soluble |
| o) | Partition coefficient: n-octanol/water       | No data available                            |
| p) | Auto-ignition temperature                    | No data available                            |
| q) | Decomposition temperature                    | No data available                            |
| r) | Viscosity                                    | No data available                            |
| s) | Explosive properties                         | No data available                            |
| t) | Oxidizing properties                         | No data available                            |

## 9.2 Other safety information

No data available

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

Sodium/sodium oxides, Strong acids, Potassium, Zinc

### 10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 1,484 mg/kg

Inhalation: No data available

Dermal: No data available

No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

No data available

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

Laboratory experiments have shown mutagenic effects.

**Carcinogenicity**

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

No data available

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: OO9650000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evidence

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Toxicity to fish LC50 - Carassius auratus (goldfish) - 18.8 mg/l - 7 d

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - > 11 mg/l - 48 h

**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**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

No data available

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

**DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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## 15. REGULATORY INFORMATION

**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

|                                   | CAS-No.    | Revision Date |
|-----------------------------------|------------|---------------|
| Manganese dichloride tetrahydrate | 13446-34-9 | 2007-07-01    |

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

|                                   | CAS-No.    | Revision Date |
|-----------------------------------|------------|---------------|
| Manganese dichloride tetrahydrate | 13446-34-9 | 2007-07-01    |

**New Jersey Right To Know Components**

|                                   | CAS-No.    | Revision Date |
|-----------------------------------|------------|---------------|
| Manganese dichloride tetrahydrate | 13446-34-9 | 2007-07-01    |

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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## 16. OTHER INFORMATION

**Full text of H-Statements referred to under sections 2 and 3.**

|               |  |
|---------------|--|
| Acute Tox.    | Acute toxicity                                     |
| Aquatic Acute | Acute aquatic toxicity                             |
| H302          | Harmful if swallowed.                              |
| H402          | Harmful to aquatic life.                           |
| H412          | Harmful to aquatic life with long lasting effects. |

**HMIS Rating**

|                        |   |
|------------------------|---|
| Health hazard:         | 1 |
| Chronic Health Hazard: | * |
| Flammability:          | 0 |
| Physical Hazard        | 0 |

**NFPA Rating**

|                |   |
|----------------|---|
| Health hazard: | 1 |
|----------------|---|

Fire Hazard: 0  
Reactivity Hazard: 0

Disclaimer:

Cater Chemicals Corp. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.