



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 02/23/2015

Version 1.2

## SECTION 1. Identification

### Product identifier

Product number	105927
Product name	Manganese(II) chloride tetrahydrate for analysis EMSURE® ACS
CAS-No.	13446-34-9

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

Identified uses	Reagent for analysis
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### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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## SECTION 2. Hazards identification

### GHS Classification

Acute toxicity, Category 4, Oral, H302

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

### GHS-Labeling

*Hazard pictograms*



*Signal Word*

Warning

*Hazard Statements*

H302 Harmful if swallowed.

*Precautionary Statements*

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

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

P330 Rinse mouth.

P501 Dispose of contents/ container to an approved waste disposal plant.

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## Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

Formula	MnCl <sub>2</sub> * 4 H <sub>2</sub> O	Cl <sub>2</sub> Mn * 4 H <sub>2</sub> O (Hill)
Molar mass	197.91 g/mol	

### Hazardous ingredients

*Chemical Name (Concentration)*

CAS-No.

*Manganese(II) Chloride Tetrahydrate (>= 90 % - <= 100 % )*

13446-34-9

Exact percentages are being withheld as a trade secret.

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## SECTION 4. First aid measures

### Description of first-aid measures

#### *Inhalation*

After inhalation: fresh air.

#### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

#### *Eye contact*

After eye contact: rinse out with plenty of water.

#### *Ingestion*

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

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

We have no description of any toxic symptoms.

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

No information available.

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## SECTION 5. Fire-fighting measures

### Extinguishing media

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

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Fire may cause evolution of:  
Hydrogen chloride gas

## Advice for firefighters

*Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### Environmental precautions

Do not empty into drains.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

### Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers No metal or light-weight-metal containers. Tightly closed. Dry.

Store at +5°C to +30°C (+41°F to +86°F).

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**SECTION 8. Exposure controls/personal protection**

**Exposure limit(s)**

*Ingredients*

Basis	Value	Threshold limits	Remarks
<i>Manganese(II) Chloride Tetrahydrate 13446-34-9</i>			
ACGIH	Time Weighted Average (TWA):	0.2 mg/m <sup>3</sup>	Expressed as: as Mn
NIOSH/GUIDE	Recommended exposure limit (REL):	1 mg/m <sup>3</sup>	Form of exposure: Fume. Expressed as: as Mn
	Short Term Exposure Limit (STEL):	3 mg/m <sup>3</sup>	Form of exposure: Fume. Expressed as: as Mn
OSHA_TRANS	Ceiling Limit Value:	5 mg/m <sup>3</sup>	Expressed as: as Mn
Z1A	Ceiling Limit Value:	5 mg/m <sup>3</sup>	Expressed as: as Mn

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

**Individual protection measures**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

*Hygiene measures*

Change contaminated clothing. Application of skin- protective barrier cream recommended.  
Wash hands after working with substance.

*Eye/face protection*

Safety glasses

*Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

*Other protective equipment:*

protective clothing

*Respiratory protection*

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**SECTION 9. Physical and chemical properties**

Physical state	solid
Color	pink

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Odor	odorless
Odor Threshold	No information available.
pH	3.5 - 6 at 50 g/l 77 °F (25 °C)
Melting point	650 °C (anhydrous substance)  58 °C
Boiling point/boiling range	2,174 °F (1,190 °C) at 1,013 hPa (anhydrous substance)
Flash point	does not flash
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	2.01 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.
Water solubility	1,980 g/l at 68 °F (20 °C)
Partition coefficient: n-octanol/water	log Pow: 0.85 (anhydrous substance) (Lit.)  Bioaccumulation is not expected.
Autoignition temperature	No information available.
Decomposition temperature	223 - 388 °F (106 - 198 °C) Elimination of water of crystallization
Viscosity, dynamic	No information available.

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Explosive properties	No information available.
Oxidizing properties	No information available.
Ignition temperature	not combustible
Bulk density	ca.1,150 kg/m <sup>3</sup>

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## SECTION 10. Stability and reactivity

### Reactivity

See below

### Chemical stability

releases water of crystallization when heated.

### Possibility of hazardous reactions

Risk of explosion with:

Alkali metals, Zinc

Violent reactions possible with:

acids

### Conditions to avoid

Heating (decomposition).

### Incompatible materials

Metals, Light metals

### Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Eye contact, Skin contact, Ingestion

#### *Acute oral toxicity*

LD50 Rat: 1,484 mg/kg

LD50 Rat: 1,484 mg/kg (RTECS)

Symptoms: We have no description of any toxic symptoms.

absorption

#### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

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## *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

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

## **Further information**

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 12. Ecological information**

### **Ecotoxicity**

*Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 4.7 mg/l; 48 h (anhydrous substance) (ECOTOX Database)

EC50 Tetrahymen pyriformis: 152 mg/l; 3 h (anhydrous substance) (ECOTOX Database)

### **Persistence and degradability**

*Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

### **Bioaccumulative potential**

*Partition coefficient: n-octanol/water*

log Pow: 0.85

(anhydrous substance) (Lit.)

Bioaccumulation is not expected.

### **Mobility in soil**

No information available.

*Additional ecological information*

Discharge into the environment must be avoided.

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**SECTION 13. Disposal considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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**SECTION 14. Transport information****Land transport (DOT)**

UN number

UN 3077

Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (MANGANESE(II) CHLORIDE)

Class

9

Packing group

III

Environmentally hazardous

--

**Air transport (IATA)**

UN number

UN 3077

Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (MANGANESE(II) CHLORIDE)

Class

9

Packing group

III

Environmentally hazardous

--

Special precautions for user

no

**Sea transport (IMDG)**

UN number

UN 3077

Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (MANGANESE(II) CHLORIDE)

Class

9

Packing group

III

Environmentally hazardous

--

Special precautions for user

yes

EmS

F-A S-F

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**SECTION 15. Regulatory information****United States of America****SARA 313**

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

*Ingredients*

Manganese(II) Chloride Tetrahydrate

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100 %



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**SARA 302**

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

**DEA List I**

Not listed

**DEA List II**

Not listed

**US State Regulations**

**Massachusetts Right To Know**

Remarks

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

**New Jersey Right To Know**

*Ingredients*

Manganese(II) Chloride Tetrahydrate

**California Prop 65 Components**

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

**Notification status**

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

KOREA: Not in compliance with the inventory

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**SECTION 16. Other information**

**Training advice**

Provide adequate information, instruction and training for operators.

**Labeling**

*Hazard pictograms*



*Signal Word*

Warning

*Hazard Statements*

H302 Harmful if swallowed.

H411 Toxic to aquatic life with long lasting effects.

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*Precautionary Statements*

Prevention

P273 Avoid release to the environment.

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

H302

Harmful if swallowed.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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