

Manganese(II) chloride tetrahydrate**31422-250G**

Version 3.0

Issuing date 12/06/2016

Revision Date 12/05/2019

Print Date 06/05/2023

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name : Manganese(II) chloride tetrahydrate

Number : 000000019418

Recommended use of the chemical and restrictions on use : Laboratory chemicals

Manufacturer or supplier's details : Honeywell Specialty Chemicals Seelze GmbH
Wunstorfer Straße 40
Seelze, 30926

For further information, please contact: : 1-800-368-0050
+1-231-726-3171
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701 or +1-303-389-1414**
: **Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
: **In Japan: +(81)-345209637**
: (24 hours/day, 7 days/week)

2. HAZARDS IDENTIFICATION**Classification of the substance or mixture**

Classification of the substance or mixture : **Acute toxicity, Category 3, Oral**
Serious eye damage, Category 1
Specific target organ toxicity - repeated exposure, Category 2

GHS Label elements, including precautionary statements

Symbol(s) :

Signal word : **Danger**

Hazard statements : **Toxic if swallowed.**
Causes serious eye damage.
May cause damage to organs (brain) through prolonged or

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Precautionary statements

repeated exposure if inhaled.

: **Prevention:**

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Wash skin thoroughly after handling.

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

Wear protective gloves/ eye protection/ face protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTER/doctor.

IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor.

Specific treatment (see supplemental first aid instructions on this label).

Rinse mouth.

Storage:

Store locked up.

Disposal:

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

3. COMPOSITION/INFORMATION ON INGREDIENTSFormula : $\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$

Chemical nature : Substance

Chemical name	CAS-No.	Concentration
Manganese(II) chloride-4-hydrate	13446-34-9	100.00 %
Manganese(II) chloride-4-hydrate		

4. FIRST AID MEASURES

General advice : First aider needs to protect himself.
Move out of dangerous area.
Take off all contaminated clothing immediately.

Inhalation : When inhaled remove to fresh air and seek medical aid.

Skin contact : After contact with skin, wash immediately with plenty of water.
Call a physician if irritation develops or persists.

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- | | | |
|--------------------|---|--|
| Eye contact | : | Rinse thoroughly with plenty of water, also under the eyelids.
Protect unharmed eye.
Remove contact lenses.
Call a physician immediately. |
| Ingestion | : | Clean mouth with water and drink afterwards plenty of water.
Call a physician immediately. |
| Notes to physician | : | Treat symptomatically. |

5. FIREFIGHTING MEASURES

- | | | |
|---|---|--|
| Suitable extinguishing media | : | Water spray
Foam
Carbon dioxide (CO ₂)
Dry powder |
| Specific hazards during firefighting | : | In case of fire hazardous decomposition products may be produced such as:
Gaseous hydrogen chloride (HCl).
Toxic metal oxide fumes |
| Special protective equipment for firefighters | : | Wear self-contained breathing apparatus and protective suit.
No unprotected exposed skin areas. |
| Further information | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |

6. ACCIDENTAL RELEASE MEASURES

- | | | |
|---|---|--|
| Personal precautions, protective equipment and emergency procedures | : | Evacuate personnel to safe areas.
Wear personal protective equipment. Unprotected persons must be kept away.
Ensure adequate ventilation.
Avoid dust formation.
Do not breathe dust.
Avoid contact with skin, eyes and clothing. |
| Environmental precautions | : | Prevent further leakage or spillage if safe to do so.
Discharge into the environment must be avoided.
Do not flush into surface water or sanitary sewer system.
Do not allow run-off from fire fighting to enter drains or water courses. |
| Methods and materials for | : | Use mechanical handling equipment. |

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containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal.
Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE**Handling**

Precautions for safe handling : Wear personal protective equipment.
Use only in well-ventilated areas.
Do not breathe dust.
Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

Conditions for safe storage, including any incompatibilities : Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Protect from atmospheric moisture and water.
Store away from incompatible substances.

Further information on storage conditions : Recommended storage temperature: room temperature.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
Manganese(II) chloride-4-hydrate Manganese(II) chloride-4-hydrate	13446-34-9	TL : Threshold limits	0.2 mg/m3	08 2006	ISHL:Industrial Safety and Health Law OEL
Further information	:	Expressed as : as Mn			

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		TWA : Time weighted average	0.2 mg/m3	05 2009	Japan Society for Occupational Health:Japan Society for Occupational Health allowable concentration recommendation value
Further information	:	Expressed as : as Mn			

Appropriate engineering controls

Use with local exhaust ventilation.

Individual protection measures, such as personal protective equipment

- Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
- Hand protection : Latex gloves
Gloves must be inspected prior to use.
Replace when worn.
- Eye protection : Safety goggles
- Skin and body protection : Protective suit
- Hygiene measures : General industrial hygiene practice.
- Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.
Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment.
Do not breathe dust.
Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state : crystalline
- Colour : pink

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Odour	: odourless
pH	: 4.0 - 6.0 at , 20 °C Note: (as aqueous solution)
Melting point/range	: 58 °C
Boiling point/boiling range	: Note: Not applicable, Decomposes on heating.
Flash point	: Note: Not applicable
Evaporation rate	: Note: no data available
Flammability	: The product is not flammable.
Lower explosion limit	: Note: Not applicable
Upper explosion limit	: Note: Not applicable
Vapour pressure	: Note: no data available
Vapour density	: Note: no data available
Density	: 1.913 g/cm3
Water solubility	: Note: completely soluble
Partition coefficient: n-octanol/water	: Note: no data available
Ignition temperature	: Note: Not applicable
Auto-ignition temperature	: Note: not auto-flammable
Viscosity, dynamic	: Note: Not applicable

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Viscosity, kinematic	: Note: Not applicable
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Molecular weight	: 197.91 g/mol
Bulk density	: ca. 800 kg/m ³

10. STABILITY AND REACTIVITY

Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Hazardous polymerisation does not occur.
Conditions to avoid	: Protect from heat/overheating.
Incompatible materials to avoid	: Alkaline earth metals
Hazardous decomposition products	: Fire may cause evolution of: Toxic metal oxide fumes Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	: LD50: 236 mg/kg Species: Rat
Acute inhalation toxicity	: Note: no data available
Acute dermal toxicity	: Note: no data available
Skin irritation	: Species: Rabbit Result: non-irritant Method: OECD Test Guideline 404
Eye irritation	: Species: Rabbit Result: Risk of serious damage to eyes. Method: OECD Test Guideline 405

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Sensitisation	: Note: Not classified due to data which are conclusive although insufficient for classification.
Genotoxicity in vitro	: Test Method: Chromosome aberration test in vitro Cell type: Human lymphocytes Metabolic activation: with and without metabolic activation Result: negative Method: OECD Test Guideline 473
	: Test Method: Ames test Cell type: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative Method: OECD Test Guideline 471
Genotoxicity in vivo	: Test Method: In vivo micronucleus test Species: Mouse, females Cell type: Micronucleus Application Route: Oral Method: OECD Test Guideline 474 Result: negative
Further information	: Note: Toxicological data applies only to the water free substance.

12. ECOLOGICAL INFORMATION**Toxicity**

Toxicity to fish	: Note: Not classified due to data which are conclusive although insufficient for classification.
Toxicity to daphnia and other aquatic invertebrates	: Note: Not classified due to data which are conclusive although insufficient for classification.
Toxicity to algae	: semi-static test EC10: 41.5 mg/l Exposure time: 168 h Species: Lemna minor (common duckweed)

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Persistence and degradability

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

Other adverse effects

Additional ecological information : Ecological data applies only to the water free substance.

Ecotoxicology Assessment

Results of PBT assessment
Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal methods : In accordance with local and national regulations.

14. TRANSPORT INFORMATION**ADR**

UN/ID No. : UN 3288
Description of the goods : TOXIC SOLID, INORGANIC, N.O.S.

(MANGANESE DICHLORIDE)

Class : 6.1
Packing group : III
Classification Code : T5
Hazard Identification Number : 60
Labels : 6.1

IATA

UN/ID No. : UN 3288
Description of the goods : Toxic solid, inorganic, n.o.s.
(Manganese dichloride)

Class : 6.1
Packing group : III
Labels : 6.1
Packing instruction (cargo aircraft) : 677
Packing instruction (passenger aircraft) : 670

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Packing instruction : Y645
(passenger aircraft)

IMDG

UN/ID No. : UN 3288
Description of the goods : TOXIC SOLID, INORGANIC, N.O.S.
(MANGANESE DICHLORIDE)
Class : 6.1
Packing group : III
Labels : 6.1
EmS Number 1 : F-A
EmS Number 2 : S-A

Marine pollutant : no

15. REGULATORY INFORMATION**National regulatory information**

Vessel Safety Law : Marine pollutants
JP VSL

Substances Subject to be :
Notified Names Threshold Concentration: 1 % wt 550
JP MSDSD

Substances Subject to be :
Notified Names Threshold Concentration: 0.1 % wt 550
JP MSDSD

Substances Subject to be : Article 18
Indicated Names Threshold limits: 1 % wt 550
JPISHL LR

Fire Service Law : Not relevant

Poisonous and Deleterious : Not relevant
Substances Control Law

Other international regulations**Notification status**

US. Toxic Substances : On TSCA Inventory
Control Act

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Australia. Industrial Chemical (Notification and Assessment) Act : On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL) : All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI) : On the inventory, or in compliance with the inventory

Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act : On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC) : On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : On the inventory, or in compliance with the inventory

16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 2*	2
Flammability	: 0	0
Physical Hazard	: 0	
Instability	:	0

* - Chronic health hazard

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

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Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Previous Issue Date: 01/16/2018

Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group