

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

revised on: 20.04.2021

Version number 3

Creation Date: 01.02.2017

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

**1.1 Product identifier****Trade name: Manganese(II) sulfate monohydrate****Article number:** 1418**CAS Number:**

10034-96-5

**EC number:**

232-089-9

**Index number:**

025-003-00-4

**Registration number**

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

No further relevant information available.

**Application of the substance / the mixture**

Industrial use

Reagent for analysis

Laboratory chemicals

**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Th. Geyer GmbH &amp; Co. KG

Dornierstr. 4 – 6

D-71272 Renningen

Tel.: +49(0)7159-1637-0, Fax:+49 (0)7159/18417

www.thgeyer.de

sicherheitsdatenblaetter@thgeyer.de

**Further information obtainable from:** Product management department**1.4 Emergency telephone number:**

National Poisons Information Service

(Birmingham Centre)

City Hospital

Dudley Road

Birmingham B18 7QH

Tel.:Emergency: (00 44) 87 06 00 62 66

### SECTION 2: Hazards identification

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

GHS08 health hazard

STOT RE 2

H373 May cause damage to organs through prolonged or repeated exposure.

(Contd. on page 2)

# Safety data sheet

## according to 1907/2006/EC, Article 31

revised on: 20.04.2021

Version number 3

Creation Date: 01.02.2017

**Trade name: Manganese(II) sulfate monohydrate**

(Contd. of page 1)



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

### 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



GHS08 GHS09

#### Signal word Warning

#### Hazard statements

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

#### Precautionary statements

P273 Avoid release to the environment.

P314 Get medical advice/attention if you feel unwell.

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

#### 2.3 Other hazards

#### Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

#### CAS No. Description

10034-96-5 Manganese(II) sulfate monohydrate

#### Identification number(s)

**EC number:** 232-089-9

**Index number:** 025-003-00-4

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information:

First aider needs to protect himself.

Immediately remove any clothing soiled by the product.

#### After inhalation:

Remove person from danger area.

Supply fresh air.

In case of pulmonary irritation, administer glucocorticoid metered dose inhaler

Call a doctor immediately.

#### After skin contact:

Flush contaminated skin with soap and plenty of water.

After prolonged contact or any signs of skin changes (redness or other signs of inflammation) seek medical attention.

take care of a Possibility of inhalation at the same time

#### After eye contact:

Protect unharmed eye.

Rinse out opened eye for several minutes under running water.

(Contd. on page 3)

# Safety data sheet

## according to 1907/2006/EC, Article 31

revised on: 20.04.2021

Version number 3

Creation Date: 01.02.2017

**Trade name: Manganese(II) sulfate monohydrate**

(Contd. of page 2)

- Seek immediate medical advice.
- **After swallowing:**
  - Rinse out mouth and then drink plenty of water.
  - Administer medicinal carbon.
  - Do not induce vomiting; call for medical help immediately.
  - A person vomiting while laying on their back should be turned onto their side.
- **Information for doctor:** Please observe safety data sheet/label.
- **4.2 Most important symptoms and effects, both acute and delayed**
  - Gastric or intestinal disorders
  - Cramp
  - Nausea
  - Unconsciousness
- **Hazards**
  - Danger of pneumonia.
  - Danger of pulmonary oedema.
- **4.3 Indication of any immediate medical attention and special treatment needed**
  - Give Glucocorticoid-Aerosol in case of lung irritation.
  - Monitor circulation.
  - Later observation for pneumonia and pulmonary oedema.
  - Symptomatic treatment.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet.
- **5.2 Special hazards arising from the substance or mixture**
  - Formation of toxic gases is possible during heating or in case of fire.
  - In case of fire, the following can be released:
  - Sulphur dioxide (SO<sub>2</sub>)
  - Under certain fire conditions, traces of other toxic gases cannot be excluded.
  - Ambient fire may liberate hazardous vapours.
- **5.3 Advice for firefighters**
- **Protective equipment:**
  - Wear self-contained respiratory protective device.
  - Do not inhale explosion gases or combustion gases.
- **Additional information**
  - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
  - Prevent fire extinguishing water from contaminating surface water or the ground water system.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
  - Wear protective clothing.
  - Ensure adequate ventilation.
  - Avoid formation of dust.
  - Do not inhale dust.
  - Avoid contact with eyes and skin.
  - Use respiratory protective device against the effects of fumes/dust/aerosol.
- **6.2 Environmental precautions:** Do not allow to enter sewers/surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
  - Dispose of the material collected according to regulations.
- **6.4 Reference to other sections**
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.

(Contd. on page 4)

# Safety data sheet

## according to 1907/2006/EC, Article 31

revised on: 20.04.2021

Version number 3

Creation Date: 01.02.2017

**Trade name: Manganese(II) sulfate monohydrate**

See Section 13 for disposal information.

(Contd. of page 3)

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Store in cool, dry place in tightly closed receptacles.

Keep away from heat and direct sunlight.

Apply the general protection and hygiene measures for the handling with chemicals.

#### Information about fire - and explosion protection:

Substance itself does not burn, tuning measures to environment

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

##### Storage:

**Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

**Information about storage in one common storage facility:**

Store away from oxidising agents.

Store away from water.

**Further information about storage conditions:**

Store in dry conditions.

Protect from humidity and water.

This product is hygroscopic.

**Storage class:** 13

**7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

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

**Ingredients with limit values that require monitoring at the workplace:**

**CAS: 10034-96-5 Manganese(II) sulfate monohydrate**

WEL	Long-term value: 0.2* 0.05** mg/m <sup>3</sup> as Mn *inhalable fraction **respirable fraction
-----	---

**Additional information:** The lists valid during the making were used as basis.

#### 8.2 Exposure controls

**Personal protective equipment:**

**General protective and hygienic measures:** Wash hands before breaks and at the end of work.

**Respiratory protection:**

Not necessary if room is well-ventilated.



Use suitable respiratory protective device in case of insufficient ventilation.

**Protection of hands:**



Protective gloves

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**

We do not currently have any information on suitable gloves.

However, according to experience, suitable materials are polychloroprene, nitrile rubber, butyl rubber, fluororubber and polyvinyl chloride suitable for protection against non-dissolved solids.

(Contd. on page 5)

# Safety data sheet

## according to 1907/2006/EC, Article 31

revised on: 20.04.2021

Version number 3

Creation Date: 01.02.2017

**Trade name: Manganese(II) sulfate monohydrate**

(Contd. of page 4)

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.

- **Eye protection:**



Safety glasses

- **Body protection:**



Protective work clothing (e. g. safety shoes EN ISO 20345, long-sleeved protective working garments).

### SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Solid material

Colour: Pink

- **Odour:** Odourless

- **pH-value:** 3–3.5

- **Change in condition**

Melting point/freezing point: 117 °C (anhydrous)

Initial boiling point and boiling range: Undetermined.

- **Flash point:** Not applicable.

- **Flammability (solid, gas):** Product is not flammable.

- **Decomposition temperature:** Not determined.

- **Auto-ignition temperature:** Not determined.

- **Explosive properties:** Product does not present an explosion hazard.

- **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

- **Vapour pressure:** Not applicable.

- **Density at 20 °C:** 2.95 g/cm<sup>3</sup> (Monohydrate)

Not determined.

- **Relative density** Not determined.

- **Vapour density** Not applicable.

- **Evaporation rate** Not applicable.

- **Solubility in / Miscibility with water:**

762 g/l (Monohydrate)

- **Partition coefficient: n-octanol/water:** Not determined.

- **Viscosity:**

Dynamic: Not applicable.

Kinematic: Not applicable.

(Contd. on page 6)

# Safety data sheet

## according to 1907/2006/EC, Article 31

revised on: 20.04.2021

Version number 3

Creation Date: 01.02.2017

**Trade name: Manganese(II) sulfate monohydrate**

(Contd. of page 5)

**· 9.2 Other information**

No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable with proper storage and handling.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Protect from humidity.
- **10.5 Incompatible materials:** Avoid contact with other chemicals.
- **10.6 Hazardous decomposition products:**  
In case of fire / burns, development of hazardous combustion gases or vapors possible.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
  - **Acute toxicity** Based on available data, the classification criteria are not met.
- |  |      |                   |
|--|------|-------------------|
| <b>· LD/LC50 values relevant for classification:</b> |      |                   |
| Oral   | LD50 | 2,150 mg/kg (rat) |
- **Primary irritant effect:**
  - **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
  - **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
  - **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
  - **Subacute to chronic toxicity:** -
  - **Additional toxicological information:**
  - **CMR effects (carcinogenicity, mutagenicity and toxicity 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.
  - **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:**  
Toxic for fish  
Toxic for water fleas  
Toxic for algae
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 7)

# Safety data sheet

## according to 1907/2006/EC, Article 31

revised on: 20.04.2021

Version number 3

Creation Date: 01.02.2017

**Trade name: Manganese(II) sulfate monohydrate**

(Contd. of page 6)

- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Observe local (country-specific) regulations and laws

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Chemicals must be disposed of in compliance with the respective national regulations.

#### European waste catalogue

06 00 00	WASTES FROM INORGANIC CHEMICAL PROCESSES
06 06 00	wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes
06 06 99	wastes not otherwise specified
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP14	Ecotoxic

#### Uncleaned packaging:

- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

#### 14.1 UN-Number

· **ADR, IMDG, IATA**

UN3077

#### 14.2 UN proper shipping name

· **ADR**

3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Manganese(II) sulfate monohydrate)

· **IMDG, IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Manganese(II) sulfate monohydrate)

#### 14.3 Transport hazard class(es)

· **ADR**



· **Class**

9 (M7) Miscellaneous dangerous substances and articles.

· **Label**

9

· **IMDG**



· **Class**

9 Miscellaneous dangerous substances and articles.

(Contd. on page 8)

# Safety data sheet

## according to 1907/2006/EC, Article 31


revised on: 20.04.2021

Version number 3

Creation Date: 01.02.2017

Trade name: Manganese(II) sulfate monohydrate

(Contd. of page 7)

· Label	9
· IATA	
	
· Class	9 Miscellaneous dangerous substances and articles.
· Label	9
· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	
· Special marking (ADR):	Symbol (fish and tree)
· Special marking (IATA):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
· Hazard identification number (Kemler code):	90
· EMS Number:	F-A,S-F
· Stowage Category	A
· Stowage Code	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· Tunnel restriction code	E
· UN "Model Regulation":	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANGANESE(II) SULFATE MONOHYDRATE), 9, III

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category E2** Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**  
Substance is not listed.
- **National regulations:**
- **Information about limitation of use:**  
Employment restrictions concerning juveniles must be observed.  
Employment restrictions concerning pregnant and lactating women must be observed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

(Contd. on page 9)



# Safety data sheet

## according to 1907/2006/EC, Article 31

revised on: 20.04.2021

Version number 3

Creation Date: 01.02.2017

**Trade name: Manganese(II) sulfate monohydrate**

(Contd. of page 8)

### SECTION 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.

Application, use and handling of our products take place out of our control and are solely your responsibility.

· **Department issuing SDS:** Product management

· **Contact:** Product management

· **Abbreviations and acronyms:**

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 Harmonised 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

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

E