

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/22/2021

Reviewed on 04/22/2021

## 1 Identification

- **Product identifier**
- **Trade name:** Manganese Sulfate Monohydrate, Laboratory Grade, Powder
- **Article number:** M1033
- **CAS Number:**  
10034-96-5
- **EC number:**  
232-089-9
- **Index number:**  
025-003-00-4
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson sherman@aquasolutions.org  
Technical Coordinator  
Sherman Nelson sherman@aquasolutions.org
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS08

- **Signal word** Warning
- **Hazard statements**  
May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Avoid release to the environment.  
Wear protective gloves / eye protection / face protection.  
IF ON SKIN: Gently wash with plenty of soap and water.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/22/2021

Reviewed on 04/22/2021

**Trade name: Manganese Sulfate Monohydrate, Laboratory Grade, Powder**

(Contd. of page 1)

Get medical advice/attention if you feel unwell.

Do NOT induce vomiting.

Collect spillage.

Store in a closed container.

Protect from sunlight.

Store away from flammable substances.

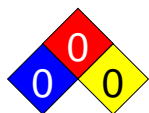
Store away from oxidizing agents.

Store away from reducing agents.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 0

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 0

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

10034-96-5 Manganese Sulfate Monohydrate

· **Identification number(s)**

· **EC number:** 232-089-9

· **Index number:** 025-003-00-4

### 4 First-aid measures

· **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:** Generally the product does not irritate the skin.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

US

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/22/2021

Reviewed on 04/22/2021

**Trade name: Manganese Sulfate Monohydrate, Laboratory Grade, Powder**

(Contd. of page 2)

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Dispose contaminated material as waste according to item 13.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
- **PAC-1:** 9.2 mg/m<sup>3</sup>
- **PAC-2:** 15 mg/m<sup>3</sup>
- **PAC-3:** 90 mg/m<sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **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:** None.
- **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.
- **Control parameters**

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

**CAS: 10034-96-5 Manganese Sulfate Monohydrate**

PEL	Ceiling limit value: 5 mg/m <sup>3</sup> as Mn
REL	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup> as Mn
TLV	Long-term value: 0.02* 0.1** mg/m <sup>3</sup> as Mn; *respirable **inhalable fraction

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/22/2021

Reviewed on 04/22/2021

**Trade name: Manganese Sulfate Monohydrate, Laboratory Grade, Powder**

(Contd. of page 3)

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

· **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.

Store protective clothing separately.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **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**

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:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:** Solid

**Color:** Pink

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** 3-3.5

· **Change in condition**

**Melting point/Melting range:** 700 °C (1,292 °F)

**Boiling point/Boiling range:** 850 °C (1,562 °F)

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** Not determined.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/22/2021

Reviewed on 04/22/2021

**Trade name: Manganese Sulfate Monohydrate, Laboratory Grade, Powder**

(Contd. of page 4)

· <b>Auto igniting:</b>	Not determined.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure:</b>	Not applicable.
· <b>Density at 20 °C (68 °F):</b>	2.95 g/cm <sup>3</sup> (24.61775 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with Water:</b>	Not determined.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

US

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/22/2021

Reviewed on 04/22/2021

**Trade name: Manganese Sulfate Monohydrate, Laboratory Grade, Powder**

(Contd. of page 5)

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 2 (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.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **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.*

## 14 Transport information

· <b>UN-Number</b>	
· <b>DOT, ADN, IMDG, IATA</b>	Not regulated
· <b>UN proper shipping name</b>	
· <b>DOT, ADN, IMDG, IATA</b>	Not regulated
· <b>Transport hazard class(es)</b>	
· <b>DOT, ADN, IMDG, IATA</b>	
· <b>Class</b>	Not regulated
· <b>Packing group</b>	
· <b>DOT, IMDG, IATA</b>	Not regulated
· <b>Environmental hazards:</b>	Environmentally hazardous substance, solid
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Stowage Category</b>	A
· <b>Stowage Code</b>	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

(Contd. on page 7)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/22/2021

Reviewed on 04/22/2021

**Trade name: Manganese Sulfate Monohydrate, Laboratory Grade, Powder**

(Contd. of page 6)

**· Transport/Additional information:**

**· DOT**

**· Remarks:** Not regulated

**· IMDG**

**· 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

**· UN "Model Regulation":** Not regulated

## 15 Regulatory information

**· Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

**· Sara**

**· Section 355 (extremely hazardous substances):** Substance is not listed.

**· Section 313 (Specific toxic chemical listings):** Substance is listed.

**· TSCA (Toxic Substances Control Act):**

**· Hazardous Air Pollutants** Substance is listed.

**· Proposition 65**

**· Chemicals known to cause cancer:** Substance is not listed.

**· Chemicals known to cause reproductive toxicity for females:** Substance is not listed.

**· Chemicals known to cause reproductive toxicity for males:** Substance is not listed.

**· Chemicals known to cause developmental toxicity:** Substance is not listed.

**· Carcinogenic categories**

**· EPA (Environmental Protection Agency) D**

**· TLV (Threshold Limit Value)** Substance is not listed.

**· NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.

**· GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

**· Hazard pictograms**



GHS08

**· Signal word** Warning

**· Hazard statements**

May cause damage to organs through prolonged or repeated exposure.

**· Precautionary statements**

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

Avoid release to the environment.

Wear protective gloves / eye protection / face protection.

**IF ON SKIN:** Gently wash with plenty of soap and water.

**IF on skin (or hair):** Take off immediately all contaminated clothing. Rinse skin with water/shower.

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing.

Get medical advice/attention if you feel unwell.

Do NOT induce vomiting.

Collect spillage.

Store in a closed container.

(Contd. on page 8)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 04/22/2021

Reviewed on 04/22/2021

**Trade name: Manganese Sulfate Monohydrate, Laboratory Grade, Powder**

(Contd. of page 7)

*Protect from sunlight.*

*Store away from flammable substances.*

*Store away from oxidizing agents.*

*Store away from reducing agents.*

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

· **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 SDS:** Environment protection department.

· **Contact:**

· **Date of preparation / last revision**

*Revision 0.2, updated pH Information. STN*

*Revision 0.1, 11-09-2018: completely updated SDS. Originally input with the incorrect CAS number. STN 04/22/2021 / 1.0*

· **Abbreviations and acronyms:**

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

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

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety & Health*

*TLV: Threshold Limit Value*

*PEL: Permissible Exposure Limit*

*REL: Recommended Exposure Limit*

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

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