



## Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 1240

Date of review: October 18, 2018

### 1 Identification of substance and company

**Product name:** **Manganese (II) sulfate, monohydrate**  
**Product code:** 11577, 14786, 18301  
**Relevant use and restrictions on use:** Research and product development  
**Manufacturer/Supplier:** Noah Technologies Corporation  
1 Noah Park  
San Antonio, Texas 78249-3419  
Phone: 210-691-2000  
Fax: 210-691-2600  
Web site: www.noahtech.com  
**Emergency information:** CHEMTREC  
800-424-9300

### 2 Hazards identification

**Emergency Overview:**

**Pictogram(s):**



**Signal word(s):**

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:**

P260 Do not breathe dust/fume/gas/mist/vapors/spray  
P273 Avoid release to the environment  
P314 Get medical advice/attention if you feel unwell  
P391 Collect spillage  
P501 Dispose of contents/container to an approved waste disposal plant

**GHS Classification:**

Specific target organ toxicity - repeated exposure - 2  
Acute aquatic toxicity - 2  
Chronic aquatic toxicity - 2

**Hazards not otherwise classified:**

None

**HMIS ratings (scale 0-4):**

Health hazard: 2  
Flammability: 0  
Physical hazard: 0

### 3 Composition/Information on ingredients

**Chemical name:** Manganese (II) sulfate, monohydrate  
**Designation:**  
**CAS number:** 10034-96-5  
**EC number:** 232-089-9  
**Formula:**  $MnSO_4 \cdot H_2O$   
**Synonyms:** Manganous sulfate, szmikite (mineral)  
**Ingredients of known acute toxicity:** Manganese (II) sulfate, monohydrate

### 4 First aid measures

**After inhalation:** Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.  
**After skin contact:** Wash off with soap and plenty of water. Consult a physician.  
**After eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.  
**After ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth out with water. Consult a physician.  
**Information for doctor:** Show this safety data sheet to the doctor in attendance

<b>Symptoms/effects; acute and delayed:</b>	Chronic exposure to manganese primarily causes impairment to the central nervous system Symptoms include sluggishness, sleepiness, muscle weakness, loss of facial muscle control expressed as a stolid mask-like appearance of the face, edema, emotional disturbances such as uncontrollable laughter, and a spastic gait with a tendency to fall in walking.
<b>Immediate medical attention and special treatment needed:</b>	No data available

#### 5 Fire-fighting measures

<b>Suitable and unsuitable extinguishing agents:</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
<b>Special hazards caused by the material, its products of combustion or resulting gases:</b>	Oxides of manganese and sulfur (SO <sub>x</sub> )
<b>Special fire fighting procedures:</b>	Wear self-contained breathing apparatus (SCBA) and fully protective fire fighting equipment/clothing
<b>Unusual fire and explosion hazard:</b>	No data available

#### 6 Accidental release measures

<b>Person-related safety precautions:</b>	Use personal protective equipment. Avoid dust formation. Avoid breathing dust.
<b>Measures for environmental protection:</b>	Do not let product enter drains
<b>Measures for cleaning/collecting:</b>	Sweep or scoop up and remove. Place in a suitable container for proper disposal.
<b>Additional information:</b>	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal See Section 15 for regulatory information

#### 7 Handling and storage

<b>Information for safe handling:</b>	Avoid contact with skin and eyes. Avoid formation of dust. Use with adequate ventilation.
<b>Information about protection against explosions and fires:</b>	Normal measures for preventive fire protection.
<b>Storage requirements to be met by storerooms and containers:</b>	Keep container tightly closed in dry and well-ventilated place
<b>Incompatibility (avoid contact with):</b>	Strong acids and oxidizers
<b>Further information about storage conditions:</b>	No further information available

#### 8 Exposure controls/personal protection

<b>Ventilation requirements:</b>	Use with adequate ventilation
<b>Components with exposure limits that require monitoring:</b>	ACGIH TLV: TWA 0.2 mg(Mn)/m <sup>3</sup> OSHA PEL: CL 5 mg(Mn)/m <sup>3</sup>
<b>Additional information:</b>	No further information available
<b>General protective and hygienic measures:</b>	The usual precautionary measures for handling chemicals should be adhered to Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
<b>Personal protective equipment:</b>	
<b>Respiratory protection:</b> (Use only NIOSH or CEN approved Equipment)	Filter-dust, fume, mist respirator
<b>Hand protection:</b>	Impervious gloves
<b>Eye protection:</b>	Safety glasses with side-shields
<b>Skin protection:</b>	Protective work clothing
<b>Additional protective equipment:</b>	Sufficient to prevent contact. Emergency eyewash and safety shower.
<b>Precautionary labeling:</b>	Wash thoroughly after handling Do not get in eyes, on skin or on clothing Do not breathe dust, vapor, mist, or gas

#### 9 Physical and chemical properties

<b>Physical state:</b>	Powder
<b>Color:</b>	White to pale pink
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	No data available
<b>Molecular Weight (Calculated):</b>	169.01
<b>pH</b>	3.0-3.5 @ 50 g/L @ 20 C
<b>Melting point/freezing point/range:</b>	700 C
<b>Boiling point/range:</b>	No data available
<b>Sublimation temperature/start:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Flammability (solid, gas):</b>	No data available
<b>Autoignition temperature:</b>	No data available
<b>Danger of explosion:</b>	No data available

<b>Flammable limits:</b>	No data available
<b>Lower:</b>	No data available
<b>Upper:</b>	No data available
<b>Evaporation Rate:</b>	No data available
<b>Vapor pressure (mm Hg):</b>	No data available
<b>Vapor density:</b>	No data available
<b>Specific gravity:</b>	2.95
<b>Bulk density:</b>	No data available
<b>Solubility in/Miscibility with water:</b>	984.7 g/L @ 48 C
<b>Partition coefficient n-octanol/water:</b>	No data available
<b>Viscosity:</b>	Not determined

#### 10 Stability and reactivity

<b>Reactivity:</b>	No data available
<b>Chemical stability:</b>	Stable
<b>Possibility of hazardous reactions:</b>	No data available
<b>Conditions to be avoided:</b>	Excessive heat See section 7 for information on proper handling and storage
<b>Materials to be avoided:</b>	Strong acids, strong oxidizers
<b>Dangerous reactions:</b>	No data available
<b>Hazardous decomposition products: (thermal and other)</b>	Oxides of manganese and sulfur (SOx)

#### 11 Toxicological information

<b>LD/LC50 values that are relevant for classification:</b>	No data available
<b>Irritation or corrosion of skin:</b>	No data available
<b>Irritation or corrosion of eyes:</b>	No data available
<b>Primary irritant or corrosive effect:</b>	
<b>on the skin:</b>	May cause irritation
<b>on the eye:</b>	May cause irritation
<b>Sensitization:</b>	No data available
<b>Potential health effects:</b>	
<b>Inhalation:</b>	May cause irritation to the upper respiratory tract and mucous membranes
<b>Ingestion:</b>	See below
<b>Skin:</b>	See below
<b>Eyes:</b>	See below
<b>Signs and symptoms of exposure:</b>	Chronic exposure to manganese primarily causes impairment to the central nervous system Symptoms include sluggishness, sleepiness, muscle weakness, loss of facial muscle control expressed as a stolid mask-like appearance of the face, edema, emotional disturbances such as uncontrollable laughter, and a spastic gait with a tendency to fall in walking. To the best of our knowledge the acute and chronic toxicity of this substance is not fully known
<b>Carcinogenicity:</b>	Not listed as a carcinogen with IARC, ACGTIH, NTP or OSHA
<b>Additional information:</b>	No additional information available

#### 12 Ecotoxicological information

<b>Toxicity:</b>	
<b>Toxicity to fish:</b>	No data available
<b>Toxicity to daphnia and other aquatic invertebrates:</b>	No data available
<b>Toxicity to algae:</b>	No data available
<b>Persistence and degradability:</b>	
<b>Biodegradability:</b>	No data available
<b>Bioaccumulative potential:</b>	
<b>Bioaccumulation:</b>	No data available
<b>Mobility in soil:</b>	No data available
<b>Other adverse effects:</b>	May be harmful to aquatic organisms. Avoid release to the environment.

#### 13 Disposal considerations

<b>Recommendation:</b>	Consult state, local or national regulation for proper disposal Allow professional disposal company to handle waste Must be specially treated under adherence to official regulations
<b>Unclean packagings recommendation:</b>	Disposal must be made according to official regulations

#### 14 Transport information

**Land transport DOT**

**Proper shipping name:** Chemicals Non-Hazardous

**Technical name:** Manganese (II) sulfate, monohydrate

**Air transport ICAO-TI and IATA-DGR:**

**Proper shipping name:** Chemicals Non-Hazardous  
**Technical name:** Manganese (II) sulfate, monohydrate

**UPS Ground / FedEx Ground**

**Proper shipping name:** Chemicals Non-Hazardous  
**Technical name:** Manganese (II) sulfate, monohydrate

**UPS Air**

**Proper shipping name:** Chemicals Non-Hazardous  
**Technical name:** Manganese (II) sulfate, monohydrate

#### 15 Regulatory information

**SARA Section 302 Extremely Hazardous components and corresponding TPQs:** Not subject  
**SARA Section 311 / 312 hazards:** Chronic Health Hazard  
**SARA Section 313 components:** This product contains chemical(s) subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-to-know Act of 1986 and 40CFR372  
**California Proposition 65 components:** Not subject  
**TSCA:** Material is listed on TSCA Inventory

#### 16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.