

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### Product identifier

Product Name

Manganese Sulfate Monohydrate Powder

### Other means of identification

Synonym

Sulfuric acid, manganese(2+) salt (1:1) monohydrate

### Recommended use of the chemical and restrictions on use

Recommended Use

Feed and fertilizer additives

Uses advised against

Not for human consumption

### Details of the supplier of the safety data sheet

Supplier

Pestell Minerals & Ingredients

Address

141 Hamilton Rd  
New Hamburg, Ontario  
Canada N3A 2H1

Phone

519-662-2877

E-mail

qa@pestell.com

### Emergency telephone number (24 hr)

Canada: CANUTEC 1 613-996-6666

US: CHEMTREC 1 703-527-3887

## 2. HAZARDS IDENTIFICATION

### **WHMIS Classification**

D2B Toxic Material Causing Other Toxic Effects Chronic toxicity

### GHS Classification

Specific target organ toxicity - repeated exposure (Category 2)

Signal word

WARNING



### **Hazard Statements**

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

### Hazards not otherwise classified (HNOC)

No information available

### Unknown acute toxicity

No information available

### **HMIS Classification**

Health hazard: 0

Chronic Health Hazard: \*

Flammability: 0

Physical hazards: 0

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Chemical nature</u>	Substance		
<b>Chemical Name</b>	<b>CAS No</b>	<b>Weight-%</b>	
Manganese sulfate monohydrate	10034-96-5	98 - 100	

## **4. FIRST AID MEASURES**

### Description of first aid measures

General advice	Remove contaminated clothing and shoes. If symptoms persist, call a physician.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
Skin Contact	Wash with soap and water. If skin irritation persists, call a physician.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse mouth. Get medical attention. Never give anything by mouth to an unconscious person.

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

No information available.

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

Treat symptomatically.

## **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	No information available.

### Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors  
Oxides of sulfur , manganese oxides.

### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- Evacuate personnel to safe areas
- Ensure adequate ventilation, especially in confined areas
- Use personal protective equipment as required
- Do not breathe dust/fume/gas/mist/vapors/spray
- Avoid creating dust

### Methods and material for containment and cleaning up

- Prevent further leakage or spillage if safe to do so
- Pick up and transfer to properly labeled containers

## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Handle in accordance with good industrial hygiene and safety practice
- Ensure adequate ventilation, especially in confined areas
- Avoid generation of dust
- Do not breathe dust/fume/gas/mist/vapors/spray
- Avoid contact with skin, eyes or clothing
- Wash thoroughly after handling
- Use personal protection recommended in Section 8
- Take precautionary measures against static discharges
- Do not eat, drink or smoke when using this product

### Conditions for safe storage, including any incompatibilities

- Keep containers tightly closed in a dry, cool and well-ventilated place
- Keep away from heat

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Components with workplace control parameter

Components	CAS-No.	Value	Control parameters	Basis
Manganese Sulfate Monohydrate	10034-96-5	TWA	0.200000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks		TWAEV	5.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.200000 mg/m3	Canada. British Columbia OEL

Adverse reproductive effect

## Specific engineering controls

Showers  
Eyewash stations  
Ventilation systems

### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Solid, powder
<b>Color</b>	White to cream
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	Not determined
<b>pH</b>	Not determined
<b>Melting point/freezing point</b>	700°C
<b>Boiling point / boiling range</b>	850°C
<b>Flash point</b>	Not applicable
<b>Evaporation rate</b>	Not determined
<b>Flammability (solid, gas)</b>	Not flammable
<b>Flammability Limit in Air</b>	Not determined
<b>Vapor Pressure</b>	Not applicable
<b>Vapor density</b>	Not determined
<b>Density</b>	2.95 g/m <sup>3</sup>
<b>Water solubility</b>	Not determined
<b>Partition coefficient (LogPow)</b>	Not determined
<b>Autoignition temperature</b>	Not determined
<b>Decomposition temperature</b>	Not determined
<b>Kinematic viscosity</b>	Not applicable
<b>Dynamic viscosity</b>	Not applicable
<b>Explosive properties</b>	Not an explosive
<b>Oxidizing properties</b>	No oxidizing properties

### Other information

No information available

## 10. STABILITY AND REACTIVITY

### Reactivity

Stable under recommended storage and handling conditions (see SECTION 7, handling and storage).

### Chemical stability

Stable under normal conditions

### Possibility of Hazardous Reactions

None under normal processing

### Conditions to avoid

Extremes of temperature and direct sunlight

### Incompatible materials

None known based on information supplied

### Hazardous Decomposition Products

None under normal use conditions

Thermal decomposition can lead to release of irritating and toxic gases and vapors

Oxides of sulfur

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

Inhalation	No known effect based on information supplied
Eye contact	Dust contact with the eyes can lead to mechanical irritation
Skin Contact	No known effect based on information supplied
Ingestion	No known effect based on information supplied

### Information on toxicological effects

#### **Acute toxicity**

No information available

#### **Skin corrosion/irritation**

Non-irritating to the skin

#### **Serious eye damage/eye irritation**

No eye irritation

#### **Sensitization**

No sensitization responses were observed

#### **Germ cell mutagenicity**

No data available.

#### **Carcinogenicity**

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP

#### **Reproductive toxicity**

No data available.

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

No data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

Not classified

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.

**Additional Information**

RTECS: OP0893500

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

No data available

**Persistence and degradability**

No information available

**Bioaccumulative potential**

No information available

**Mobility in soil**

No information available

**Other adverse effects**

No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

Disposal of wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations
Contaminated packaging	Dispose of in accordance with federal, state and local regulations

**14. TRANSPORT INFORMATION**

**Ground Transport**

**TDG (Can)**

Not regulated as dangerous goods

**DOT (US)**

Not regulated as dangerous goods

## Air Transport

### IATA

Not regulated as dangerous goods

## Marine Transport

### IMDG

Not regulated as dangerous goods

## 15. REGULATORY INFORMATION

### International Inventories

Component	AICS	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	TSCA
Manganese sulfate monohydrate 10034-96-5 ( 98 - 100 )	X	-	-	X	X	-	X	-

"-" Not Listed

"X" Listed

## 16. OTHER INFORMATION

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

**TWA** - TWA (time-weighted average)

**STEL** - STEL (Short Term Exposure Limit)

**Ceiling** - Maximum limit value

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

### Disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Pestell Minerals & Ingredients and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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