

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

Product identifier

Product Name Manganese Sulphate 32% Monohydrate Fert Powder
CHEMICAL FORMULA: $MnSO_4 \cdot H_2O$
MOLECULAR WEIGHT: 169.01
CAS NO.: 10034-96-5

Recommended use of the chemical and restrictions on use

Recommended Use Animal feed additive.
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

Chemical nature

Substance

Chemical Name	CAS No	Weight-%
Manganese sulfate monohydrate	10034-96-5	96 - 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/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks		TWAEV	5.000000 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.200000 mg/m ³	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

Appearance	Solid, powder
Color	White to cream
Odor	Odorless
Odor Threshold	Not determined
pH	Not determined
Melting point/freezing point	700°C
Boiling point / boiling range	850°C
Flash point	Not applicable
Evaporation rate	Not determined
Flammability (solid, gas)	Not flammable
Flammability Limit in Air	Not determined
Vapor Pressure	Not applicable
Vapor density	Not determined
Density	2.95 g/m ³
Water solubility	Not determined
Partition coefficient (LogPow)	Not determined
Autoignition temperature	Not determined
Decomposition temperature	Not determined
Kinematic viscosity	Not applicable
Dynamic viscosity	Not applicable
Explosive properties	Not an explosive
Oxidizing properties	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

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	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

TDG (Canada)

Not Regulated as Dangerous Goods

DOT (US)

Not Regulated as Dangerous Goods

IMDG

Not Regulated as Dangerous Goods

IATA

Not Regulated as Dangerous Goods

15. REGULATORY INFORMATION

International Inventories

Component	AICS	DSL/NDL	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/NDL - 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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