

MANGANESE SULFATE MONOHYDRATE

MATERIAL SAFETY DATA SHEET

Manufacturer's Name & Address

Southern Agricultural Insecticides, Inc.
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I. NOMENCLATURE

Product Name: Manganese Sulfate
Other/Generic Names: Manganese Sulfate Monohydrate, Manganous (II) Sulhte Hydrate

II. INGREDIENTS

	CAS #	nominal	OSHA PEL	ACGIH TLV
Manganese Sulfate Monohydrate	10034-96-5	99%	not listed	N.A.
Manganese NOS	7439-65-5	27%	5 mg/m ³	5 mg/m ³

III. HAZARDS IDENTIFICATION

Emergency Overview: Material is a crystalline solid which may be harmful by inhalation or ingestion. It causes irritation to eyes, skin, mucous membranes and upper respiratory tract.

SKIN: Contact causes skin irritation.

EYES: Causes eye irritation.

INHALATION: Material will irritate mucous membranes and upper respiratory tract. Can cause flu like symptoms, respiratory discomfort, pneumonia.

INGESTION: Harmful if swallowed.

DELAYED EFFECTS: Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include listlessness, sleepiness and weakness in the legs.

IV. FIRST AID MEASURES

First Aid for SKIN: Wash affected area with soap and large quantities of water. Remove contaminated clothing and launder, separately from household laundry, before reuse. Seek medical attention for irritation or any other symptom.

First Aid for EYE: Immediately flush with running water for at least 15 minutes, lifting eyelids periodically to remove contamination. Remove contact lenses. Seek immediate medical attention.

First Aid for INHALATION: Remove to fresh air. If breathing has stopped apply artificial respiration. If breathing is difficult, give oxygen provided a qualified operator is available. Seek medical attention.

First Aid for INGESTION: If conscious, give 2 to 4 glasses of water or milk. Do not induce vomiting. Seek immediate medical attention

V. FIRE FIGHTING MEASURES

Flash point: Not applicable (solid).

Autoignition Temp.: Not applicable.

Flash Point Method: Not applicable.

Flammable Limits (Volume % in air): UEL: Not applicable. **LEL:** Not applicable.

Flame Propagation Rate (Solids): Not applicable.

Extinguishing Media: Use carbon dioxide, dry chemical, water spray or foam.

Unusual Fire and Explosion Hazards: Emits toxic fumes under fire conditions.

Special Fire Fighting Procedures: Wear NIOSH approved self contained positive pressure breathing apparatus and protective clothing to prevent contact with skin and eyes.

VI. SPILL OR LEAK PROCEDURES

In case of spill or leak: Always wear recommended personal protective equipment. Provide ventilation to area. Sweep with a minimum of dust and place in a closed, approved, labeled waste container. Wash spill site with water after material pickup is complete. Spills and releases may be reportable to Federal and/or local authorities.

VII. HANDLING AND STORAGE

Normal Handling: Always wear recommended personal protective equipment. Use with adequate ventilation. Avoid contact with skin, eyes and clothing. Do not breathe dust. Wash thoroughly after handling.

Storage Procedures: Store in a cool, dry, well ventilated area away from strong acids and oxidizers.

MANGANESE SULFATE MONOHYDRATE MSDS

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: General mechanical ventilation is recommended. Use local ventilation at product handling or transfer points.

Skin: Under normal conditions, rubber gloves and full work clothing are adequate. If contact with product is possible, wear impervious clothing. Showering after work is recommended.

Eye: Wear chemical safety goggles. Do not wear contact lenses.

Respiratory: Not required for properly ventilated areas. If high concentrations of dust should accumulate, wear a NIOSH approved respirator with particulate cartridge.

Additional Recommendations: Provide eyewash stations and safety showers convenient to work areas.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pale pink crystals.

Physical State: Solid.

Solubility in Water: (Weight %) 98.5 g/100 cc @ 118.4°F (48°C).
78.9 g/100 cc @ 212°F (100°C).

pH: Not applicable (solid).

Melting Point: 842°F (450°C)

Vapor Density: (Air = 1.0) Not applicable.

Evaporation Rate: Not applicable.

Odor: Odorless.

Specific Gravity: (Water= 1.0) 2.95

Boiling Point: Decomposes at 1562°F (850°C)

Vapor Pressure: Not applicable.

% Volatiles: Not determined.

Flash Point: Not applicable (solid).

X. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Avoid exposure to heat and humidity. Material is hygroscopic. Material can lose water upon heating.

Incombatabilities: Strong acids.

Hazardous Decomposition: Decomposition products include manganese oxide and toxic fumes of sulfur oxides.

Hazardous Polymerization: Will not occur.

XI. TOXICOLOGICAL INFORMATION

Immediate (Acute) Effects: Oral LD₅₀ (mouse) = 305 mg/kg

Delayed (Subchronic & Chronic) Effects: Material has been determined to be mutagenic in several assay systems. Other studies suggest reproductive effects (paternal effects, spermatogenesis effects). Relevance to human health has not been established.

CARCINOGENICITY: ingredients listed NTP, IARC, OSHA **None**

XII. DISPOSAL CONSIDERATIONS

Dispose of by label use instructions. Compound does not have an RCRA Code.

Other Disposal Considerations: If product can not be used according to label use instructions, check Federal, State and Local regulations for appropriate disposal procedures.

XIII. TRANSPORT & SELECTED REGULATORY INFORMATION

US DOT Hazard Class: Not regulated.

Freight classification: Manufactured fertilizer, NMFC 68140 sub 5

TSCA Inventory Status: Listed on the TSCA Inventory. (Listed under anhydrous, CAS# 7785-87-7)

SECTION 311 HAZARD CLASS: None listed.

SECTION 313 TOXIC CHEMICALS: None Listed.

The information presented herein for consideration, while not guaranteed, is true and accurate to the best of Southern Agricultural Insecticide, Inc.'s knowledge. No warranty, or guaranty is expressed or implied regarding the accuracy or reliability of such information and Southern Agricultural Insecticide, Inc. shall not be liable for any loss or consequential damages arising out of the use thereof.

Ref.: Allied Signal Chemicals MSS Manganese Sulfate Monohdrate 9/93 29 CFR 1995
40 CFR part 355 1995 40 CFR part 302.4 1995 49 CFR parts 171-173 1997