

**FLINN SCIENTIFIC, INC.**  
**Material Safety Data Sheet (MSDS)**

MSDS #: 490.00

Revision Date: October 19, 2011

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**SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

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**Manganese(II) Chloride Tetrahydrate**

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

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**SECTION 2 — COMPOSITION, INFORMATION ON INGREDIENTS**

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Manganese(II) chloride tetrahydrate

Synonym: manganese dichloride, manganous chloride

CAS#: 13446-34-9

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**SECTION 3 — HAZARDS IDENTIFICATION**

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Light pink crystals; deliquescent. Odorless.

Slightly toxic by ingestion. Irritating to eyes, skin, and mucous membranes.

Avoid all body tissue contact. Avoid drying to the point where a metal fume may be created.

**FLINN AT-A-GLANCE**

Health-1

Flammability-0

Reactivity-0

Exposure-1

Storage-1

0 is low hazard, 3 is high hazard

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**SECTION 4 — FIRST AID MEASURES**

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Call a physician and seek medical attention for further treatment, observation, and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped, give artificial respiration immediately.

Eye or External: Immediately flush with fresh water for at least 15 minutes.

Internal: Rinse mouth. Give large quantities of water for dilution. Call a physician or poison control at once.

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**SECTION 5 — FIRE FIGHTING MEASURES**

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Noncombustible solid.

When heated to decomposition, may emit chlorine and manganese fume.

**Fire Fighting Instructions:** Use a triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

**NFPA CODE**

None

established

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**SECTION 6 — ACCIDENTAL RELEASE MEASURES**

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Restrict unprotected personnel from the area. Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

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**SECTION 7 — HANDLING AND STORAGE**

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Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates, and phosphates. Very hygroscopic. Store in a Flinn Chem-Saf bag. Use and dispense in a hood.

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**SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION**

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Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and a chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire).

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**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

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Light, pink, odorless crystals; deliquescent.  
Solubility: Soluble in water and alcohol, but not soluble in ether.  
Formula:  $MnCl_2 \cdot 4H_2O$   
Formula weight: 197.91

Boiling point: 1225 °C  
Dehydration point: 58 °C  
Melting point: 87.5 °C  
Specific gravity: 2.01

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**SECTION 10 — STABILITY AND REACTIVITY**

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Avoid contact with strong acids, sodium, potassium, and zinc.  
Shelf life: Fair to poor, deliquescent.

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**SECTION 11 — TOXICOLOGICAL INFORMATION**

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Acute effects: Irritant.  
Chronic effects: Possible mutagen.  
Target organs: Nerves, lungs.

ORL-RAT LD<sub>50</sub>: 1484 mg/kg  
IHL-RAT LC<sub>50</sub>: N.A.  
SKN-RBT LD<sub>50</sub>: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

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**SECTION 12 — ECOLOGICAL INFORMATION**

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Data not yet available.

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**SECTION 13 — DISPOSAL CONSIDERATIONS**

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Please review all federal, state and local regulations that may apply, before proceeding.  
Flinn Suggested Disposal Method #27f is one option.

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**SECTION 14 — TRANSPORT INFORMATION**

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Shipping name: Not regulated  
Hazard class: N/A  
UN number: N/A  
N/A = Not applicable

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**SECTION 15 — REGULATORY INFORMATION**

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TSCA-listed, EINECS-listed (231-869-6).

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**SECTION 16 — OTHER INFORMATION**

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**Consult your copy of the *Flinn Science Catalog/Reference Manual*  
for additional information about laboratory chemicals.**