Material Safety Data Sheet
Manganous Sulfate Solutions

Section 1 - Chemical Product and Company Identification

MSDS Name:
Manganous Sulfate Solutions

Catalog Numbers:
LC16560, LC16570

Synonyms:
None

Company Identification:
LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:
(412) 826-5230

Emergency Phone Number:
(800) 424-9300

CHEMTREC Phone Number:
(800) 424-9300 or
011-703-527-3887

Section 2 – Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name:</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>&gt;63</td>
</tr>
<tr>
<td>10034-96-5</td>
<td>Manganese sulfate monohydrate</td>
<td>0.05-36.4</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

Emergency Overview

Appearance: Clear, pink solution

Caution! May cause eye and skin irritation. May cause central nervous system effects. May cause liver damage.

Target Organs: Central nervous system, liver, blood

Potential Health Effects

Eye:
May cause eye irritation.

Skin:
May cause mild skin irritation.

Ingestion:
May cause gastrointestinal irritation with nausea, vomiting, and diarrhea.

Inhalation:
May cause respiratory irritation.
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Chronic:
Tumorigenic effects have occurred in laboratory animals. Reproductive toxicity effects have occurred in laboratory animals. May cause adverse liver effects. Prolonged or repeated exposure may cause permanent central nervous system damage.

Section 4 - First Aid Measures

Eyes:
Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until no evidence of chemical remains. Get medical aid.

Skin:
Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion:
Do not induce vomiting. Give conscious victim 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid at once.

Inhalation:
Move victim to fresh air immediately. Get medical aid if irritation or other symptoms appear.

Notes to Physician:
Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

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

Extinguishing Media:
For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Autoignition Temperature:
No information found.

Flash Point:
No information found.

NFPA Rating:
Health- 1, Flammability- 0, Instability- 0

Explosion Limits:
Lower: n/a Upper: n/a

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Absorb spill with inert material such as sand, vermiculite, or diatomaceous earth, and transfer to a suitable container labeled for later disposal.
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Section 7 - Handling and Storage

Handling:
Wash thoroughly after handling. Do not ingest or inhale. Do not get in eyes, on skin, or on clothing.

Storage:
Store tightly capped in a cool, dry, well-ventilated area away from incompatible materials.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Facilities using or storing this material should be equipped with an eyewash and safety shower. Provide local exhaust or general dilution ventilation.

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>None of the components are on this list</td>
<td>None of the components are on this list</td>
<td>None of the components are on this list</td>
</tr>
<tr>
<td>Manganese sulfate monohydrate</td>
<td>None of the components are on this list</td>
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</tr>
</tbody>
</table>

OSHA Vacated PELs:
None

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133. Do not wear contact lenses when working with chemicals.

Skin:
Wear appropriate protective gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Respirators:
Follow the OSHA respirator regulations found in 29 CFR 1910.134. Always use a NIOSH-approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid
Color: Pink
Odor: Odorless
pH: 4-7
Vapor Pressure: No information found.
Vapor Density: No information found.
Evaporation Rate: No information found.
Viscosity: No information found.
Boiling Point: No information found.
Freezing/Melting Point: No information found.
Decomposition Temperature: No information found.
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Solubility in water: Soluble.
Specific Gravity/Density: 1.0 – 1.2
Molecular Formula: No information found.
Molecular Weight: No information found.

Section 10 - Stability and Reactivity

Chemical Stability:
Stable under normal temperatures and pressures.

Conditions to Avoid:
Incompatible materials, excess heat.

Incompatibilities with Other Materials:
Oxidizing agents, reducing agents, peroxides, organic materials, bases.

Hazardous Decomposition Products:
Oxides of sulfur.

Hazardous Polymerization:
Has not been reported

Section 11 - Toxicological Information

RTECS:
CAS# 7732-18-5: ZC0110000.
CAS# 10034-96-5: OP0893500.

LD50/LC50:
CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg
CAS# 10034-96-5:
Oral, rat: LD50 = 2150 mg/kg

Carcinogenicity:
CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
CAS# 10034-96-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

Epidemiology:
Tumorigenic effects have occurred in laboratory animals.

Teratogenicity:
No information found

Reproductive:
Reproductive toxicity effects have occurred in laboratory animals.

Mutagenicity:
Mutagenic effects have occurred in microorganisms.

Neurotoxicity:
No information found

Section 12 - Ecological Information

No information found
**Section 13 - Disposal Considerations**

Dispose of in accordance with Federal, State, and local regulations.

**Section 14 - Transport Information**

US DOT

- **Shipping Name:** Not regulated
- **Hazard Class:**
- **UN Number:**
- **Packing Group:**

**Section 15 - Regulatory Information**

**US Federal**

- **TSCA:**
  - CAS# 7732-18-5 is listed on the TSCA Inventory.
  - CAS# 10034-96-5 is not listed on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory (40CFR 720.3(u)(2)).

- **SARA Reportable Quantities (RQ):**
  - None of the components are on this list.

- **CERCLA/SARA Section 313:**
  - None of the components are on this list.

- **OSHA - Highly Hazardous:**
  - None of the components are on this list.

**US State**

- **State Right to Know:**
  - Not available

- **California Regulations:**
  - None

**European/International Regulations**

- **Canadian DSL/NDSL:**
  - CAS# 7732-18-5 is listed on Canada's DSL List.
  - CAS# 10034-96-5 is not listed on Canada’s DSL or NDSL Lists.

- **Canada Ingredient Disclosure List:**
  - CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
  - CAS# 10034-96-5 is listed on Canada's Ingredient Disclosure List as Manganese compounds, n.o.s.
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Section 16 - Other Information

MSDS Creation Date: February 19, 1998
Revision Date: May 19, 2011

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