

# Manganous Sulphate Monohydrate

## Material Safety Data Sheet

### Section 1. Product and Company Identification

**Product Name** Manganous Sulphate Monohydrate

**Product Code** MX0210

**Manufacturer** EMD Chemicals Inc.

P.O. Box 70

480 Democrat Road

Gibbstown, NJ 08027

Prior to January 1, 2003 EMD Chemicals Inc. was

EM Industries, Inc. or EM Science, Division of

EM Industries, Inc.

**Effective Date** 3/13/2003

#### For More Information Call

856-423-6300 Technical Service

Monday-Friday: 8:00 AM - 5:00 PM

#### In Case of Emergency Call

800-424-9300 CHEMTREC  
(USA)

613-996-6666 CANUTEC  
(Canada)

24 Hours/Day: 7 Days/Week

**Synonym** Manganese Sulfate; Sulfuric Acid

**Material Uses** Laboratory Reagent

**Chemical Family** Inorganic salt

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### Section 2. Composition and Information on Ingredients

| <b>Component</b>              | <b>CAS #</b> | <b>% by Weight</b> |
|-------------------------------|--------------|--------------------|
| Manganese sulfate monohydrate | 10034-96-5   | 100                |

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### Section 3. Hazards Identification

**Physical State and Appearance** Solid.

**Emergency Overview** WARNING !  
HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.  
CAUSES EYE AND SKIN IRRITATION.  
MAY BE HARMFUL IF INHALED.  
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, RESPIRATORY TRACT, CENTRAL NERVOUS SYSTEM.

**Routes of Entry** Eye contact. Inhalation. Ingestion.

#### Potential Acute Health Effects

**Eyes** Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.

**Skin** Hazardous in case of skin contact (permeator, irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

**Inhalation** May be hazardous in case of inhalation.

**Ingestion** Hazardous in case of ingestion.

#### Potential Chronic Health Effects

**Carcinogenic Effects** This material is not known to cause cancer in animals or humans.

#### Effects

Additional information See Toxicological Information (section 11)

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**Medical Conditions Aggravated by Overexposure:** Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

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### Section 4. First Aid Measures

**Eye Contact** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

**Skin Contact** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Inhalation** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

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### Section 5. Fire Fighting Measures

**Flammability of the Product** Non-flammable.

**Auto-ignition Temperature** Not applicable.

**Flash Points** Not applicable.

**Flammable Limits** Not applicable.

**Products of Combustion** Not applicable.

**Fire Hazards in Presence of Various Substances** Not applicable.

**Explosion Hazards in Presence of Various Substances** **Risks of explosion of the product in presence of static discharge:** No.  
**Risks of explosion of the product in presence of mechanical impact:** No.

**Fire Fighting Media and Instructions** Not applicable.

**Protective Clothing (Fire)** Wear suitable protective clothing.

**Special Remarks on Fire Hazards** Not available.

**Special Remarks on Explosion Hazards** Not available.

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### Section 6. Accidental Release Measures

**Small Spill and Leak** Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill and Leak** Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into

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sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

### Spill Kit Information

The following EM SCIENCE SpillSolv (TM) absorbent is recommended for this product:  
SX1310 Acid Treatment Kit

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### Section 7. Handling and Storage

#### Handling

Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing dust. Use only with adequate ventilation. Wash thoroughly after handling.

#### Storage

Keep container tightly closed. Keep container in a cool, well-ventilated area.

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### Section 8. Exposure Controls/Personal Protection

#### Engineering Controls

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

#### Personal Protection

**Eyes** Splash goggles.

**Body** Lab coat.

**Respiratory** Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

**Hands** Gloves.

**Feet** Not applicable.

#### Protective Clothing (Pictograms)

**Personal Protection in Case of a Large Spill** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

#### Product Name

Manganese sulfate monohydrate

#### Exposure Limits

**Belgium Minister of Labour (Belgium, 1998).**

VL: 0.2 mg/m<sup>3</sup> 8 hour(s).

**BAUA (Germany, 1997).**

Spitzenbegrenzung: 2 mg/m<sup>3</sup>

TWA: 0.5 mg/m<sup>3</sup> 8 hour(s).

**DK–Arbejdstylsinet (Denmark, 1996).**

GV: 2.5 mg/m<sup>3</sup> 8 hour(s).

**Tyterveyslaitos (Finland, 1998).**

TWA: 0.5 mg/m<sup>3</sup> 8 hour(s).

**INRS (France, 1996).**

VME: 1 mg/m<sup>3</sup> 8 hour(s).

**National Authority for Occupational Safety/Health (Ireland, 1999).**

OEL: 5 mg/m<sup>3</sup> 8 hour(s).

**Arbeidsinspectie (Netherlands, 1999).**

TGG 15 min: 3 mg/m<sup>3</sup> 15 minute(s).

TGG 8 uur: 1 mg/m<sup>3</sup> 8 hour(s).

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**N–Arbeidstilsynet (Norway, 1996).**

AN: 2.5 mg/m<sup>3</sup> 8 hour(s).

**AFS (Sweden, 1996).**

NGV: 1 mg/m<sup>3</sup> 8 hour(s).

**EH40–OES (United Kingdom (UK), 1997).**

TWA: 5 mg/m<sup>3</sup> 8 hour(s).

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### Section 9. Physical and Chemical Properties

|                                      |                                     |
|--------------------------------------|-------------------------------------|
| <b>Odor</b>                          | Odorless.                           |
| <b>Color</b>                         | White.                              |
| <b>Physical State and Appearance</b> | Solid.                              |
| <b>Molecular Weight</b>              | 169.02 g/mole                       |
| <b>Molecular Formula</b>             | MnSO <sub>4</sub> *H <sub>2</sub> O |
| <b>pH</b>                            | Not available.                      |
| <b>Boiling/Condensation Point</b>    | 850°C (1562°F)                      |
| <b>Melting/Freezing Point</b>        | Decomposes.                         |
| <b>Specific Gravity</b>              | Not available.                      |
| <b>Vapor Pressure</b>                | Not available.                      |
| <b>Vapor Density</b>                 | Not available.                      |
| <b>Odor Threshold</b>                | Not available.                      |
| <b>Evaporation Rate</b>              | Not available.                      |
| <b>LogKow</b>                        | Not available.                      |
| <b>Solubility</b>                    | Soluble in water.                   |

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### Section 10. Stability and Reactivity

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|--|--|
| <b>Stability and Reactivity</b>                | The product is stable.                         |
| <b>Conditions of Instability</b>               | Not available.                                 |
| <b>Incompatibility with Various Substances</b> | Highly reactive with oxidizing agents, metals. |
| <b>Rem/Incompatibility</b>                     | Not available.                                 |
| <b>Hazardous Decomposition Products</b>        | SO <sub>x</sub>                                |
| <b>Hazardous Polymerization</b>                | Will not occur.                                |

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### Section 11. Toxicological Information

#### RTECS Number:

Manganese Sulphate Monohydrate      OP0893500

**Toxicity**  
LD50: Not available.  
LC50: Not available.

**Chronic Effects on Humans** Not available.

**Acute Effects on Humans** Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. Hazardous in case of skin

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contact (permeator, irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. May be hazardous in case of inhalation. Hazardous in case of ingestion.

**Special Remarks on Other Toxic Effects on Humans** MAY BE IRRITATING ON CONTACT WITH MUCOUS MEMBRANES.

**Synergetic Products (Toxicologically)** Not available.

**Irritancy** Draize Test: Not available.

**Sensitization** Not available.

**Carcinogenic Effects** This material is not known to cause cancer in animals or humans.

**Toxicity to Reproductive System** Not available.

**Teratogenic Effects** Not available.

**Mutagenic Effects** Not available.

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### Section 12. Ecological Information

**Ecotoxicity** Not available.

**BOD5 and COD** Not available.

**Toxicity of the Products of Biodegradation** The products of degradation are less toxic than the product itself.

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### Section 13. Disposal Considerations

**EPA Waste Number** Not available.

**Treatment** Material does not have an EPA Waste number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished.  
ALWAYS CONTACT A PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

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### Section 14. Transport Information

**DOT Classification** Not available.

**TDG Classification** Not available.

**IMO/IMDG Classification** Not available.

**ICAO/IATA Classification** Not available.

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### Section 15. Regulatory Information

**U.S. Federal Regulations** TSCA 8(b) inventory: Manganese sulfate monohydrate

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

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SARA 302/304/311/312 hazardous chemicals: No products were found.

SARA 311/312 MSDS distribution – chemical inventory – hazard identification: No products were found.

SARA 313 toxic chemical notification and release reporting: No products were found.

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean air act (CAA) 112 accidental release prevention: No products were found.

Clean air act (CAA) 112 regulated flammable substances: No products were found.

Clean air act (CAA) 112 regulated toxic substances: No products were found.

**WHMIS (Canada)** Class D–2B: Material causing other toxic effects (TOXIC).

No products were found.

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

### International Regulations

**EINECS** Manganese sulfate monohydrate 232–089–9

**DSCL (EEC)** R38– Irritating to skin.

R41– Risk of serious damage to eyes.

**International Lists** Australia (NICNAS): Manganese sulfate monohydrate

Philippines (RA6969): Manganese sulfate monohydrate

China: No products were found.

**State Regulations** New Jersey: Manganese sulfate monohydrate

California prop. 65: No products were found.

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### Section 16. Other Information

|  |               |                        |
|--|---------------|------------------------|
| <b>National Fire Protection Association (U.S.A.)</b> | <b>0</b>      | <b>Fire</b>            |
|  | <b>10</b>     | <b>Hazard</b>          |
|  | <b>Health</b> | <b>Reactivity</b>      |
|  |               | <b>Specific Hazard</b> |

**Changed Since Last Revision** +

#### Notice to Reader

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