

Material Safety Data Sheet



Martrex, Inc.

Section 1: Chemical Product and Company Information

Product name: Martrex Manganese Sulfate 31%

Reference Number: n/a

Web: www.martrexinc.com

Supplier/ Further Information: Martrex, Inc.

P. O. Box 1709

Phone: 952/933-5000

14525 Highway 7

Toll Free: 800/328-3627

Minnetonka, Minnesota 55345-3793

FAX: 952/933-1889

EPA Registration Number: n/a

CAS#: 10034-96-5

Chemical Name: Manganese Sulfate Monohydrate

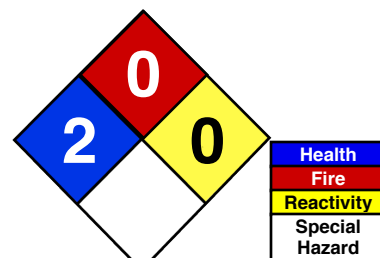
Synonyms: Sulfuric acid, manganese(2+) salt (1:1), monohydrate (8Cl,9Cl); Manganese monosulfate monohydrate; Manganese sulfate(MnSO₄) monohydrate; Manganese(2+) sulfatemonohydrate; Manganous sulfate monohydrate; Sulfuric acid manganese salt

Chemical Family: Inorganic salt

Product Use: n/a

MSDS Number: n/a

24 Hour Emergency Phone - Chemtrec Transport: 1-800-424-9300; Medical: 1-800-441-3637



For Rating Explanation see Section 16

Section 2: Composition/Information on Ingredients

Hazardous Component	CAS#	%	OSHA Limits	ACGIH Limits	OTHER Limits
Manganese Sulfate Monohydrate	10034-96-5	100%	5 mg/m ³ (as MN)	5 mg/m ³ (as MN)	no data

Section 3: Hazards Identification

Emergency Overview

OSHA Hazards: No known OSHA hazards

Target Organs: Lungs, Nerves.

GHS Label elements, including precautionary statements

Pictogram:



Signal word:

Warning

Hazard Statement(s)

H373

May cause damage to organs through prolonged or repeated exposure.

H401

Toxic to aquatic life.

Precautionary statement(s):

none

FPA Ratings: Health: **2** Flammability: **0** Reactivity: **0**

Potential Acute Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed

Carcinogenicity Data: See Section 11 for more Toxicological information

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1-800-441-3637 Medical**

Section 4: First Aid Measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled: If breathed in, move person into fresh air. If not breathing give artificial respiration **Consult a physician.**

In case of skin contact: Wash off with soap and plenty of water. **Consult a physician.**

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and **consult a physician.**

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. **Consult a physician.**

NOTE TO THE PHYSICIAN: Treat symptomatically and supportively.

Section 5: Fire Fighting Measures

Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters:

Wear self contained breathing apparatus for fire fighting if necessary.

Flammability Classification: This product is essentially non-flammable and is used commercially as a fire retardant.

Auto-Ignition Temperature: Not applicable

Flash Points: Not applicable

Flammable Limits: Not applicable

Products of Combustion: no data

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances: no data

Fire Extinguishing Media: Use media suitable to extinguish source of fire.

Special Fire Fighting Information: Wear appropriate personal protective equipment as specified in Section 8.

Hazardous Combustion Products: See **Section 10 Reactivity** Incompatibilities.

Section 6: Accidental Release Measures

Personal precautions: Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning: Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

Spill and Leak Personal Procedures: Wear appropriate personal protective as specified in Section 8.

Environmental and Regulatory Reporting: See Sections 12, 13 and 15

Section 7: Handling and Storage

Precautions for safe handling: Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place.

Hygroscopic Keep in a dry place

Section 8: Exposure Controls / Personal Protection

Components with workplace control parameters

Hazardous Component	CAS#	Value	Control Parameters	Update	Basis
Manganese Sulfate Monohydrate	10034-96-5	CEIL	5 mg/m3	1993-06-30	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		CEIL	5 mg/m3	1989-03-01	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	0.2 mg/m3	1995-05-23	USA. ACGIH Threshold Limit Values (TLV)

Remarks: Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL.

See Notice of Intended Changes (NIC)

Personal protective equipment

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: For prolonged or repeated contact use protective gloves.

Eye protection: Safety glasses with side-shields conforming to EN166

Skin and body protection: Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygienic Work Practices: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9: Physical and Chemical Properties

Chemical Name: Manganese Sulfate Monohydrate

Percent Equivalent: 57%

Physical State: solid powder

Color and Appearance: light red

pH: 3.0 - 3.5 at 50 g/l at 20 °C (68 °F)

Melting Point: 700 °C (1,292 °F)

Boiling Point: no data

Flash point: no data

Ignition temperature: no data

Lower explosion limit: no data

Upper explosion limit: no data

Specific Gravity: 1.43 @ 60°F

Vapor Pressure: no data

Density: 2.95 g/cm³

Solubility in water: No data

Chemical Formula: MnSO₄ · H₂O

Formula Wt: 169.02 g/mol

Section 10: Stability and Reactivity

Chemical Stability (stable under normal temperature and pressures):

Stable X Unstable _____

Hazardous Polymerization:

May Occur _____ Will Not Occur X

Conditions to Avoid: Avoid moisture

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1-800-441-3637 Medical**

Materials to Avoid: no data

Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions. - Sulphur oxides, Manganese/manganese oxides

Section I I: Toxicological Information

Acute toxicity:

Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

Genotoxicity in vitro - Hamster - ovary: Cytogenetic analysis

Genotoxicity in vitro - Hamster - ovary: Sister chromatid exchange

Genotoxicity in vivo - mouse - Oral: Micronucleus test

Genotoxicity in vivo - mouse - Oral: Cytogenetic analysis

Genotoxicity in vivo - mouse - Oral: sperm

Carcinogenicity

Carcinogenicity - mouse - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. **Endocrine:**Thyroid tumors.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

Reproductive toxicity - mouse - male - Oral

Paternal Effects: Spermatogenesis (including genetic material, sperm morphology,motility, and count).
no data available

Specific target organ toxicity - single exposure (GHS): no data available

Specific target organ toxicity - repeated exposure (GHS): May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: no data available

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.

Signs and Symptoms of Exposure: Men exposed to manganese dusts showed a decrease in fertility. Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. A stolid mask-like appearance of the face, emotional disturbances such as uncontrollable laughter and a spastic gait with tendency to fall in walking are findings in more advanced cases. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. Prolonged or repeated inhalation may cause: Pneumonia

Additional Information: RTECS: OP0893500

Section 12: Ecological Information

Toxicity: no data available

Persistence and degradability: no data available

Bio-accumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Section 13: Disposal Considerations

Product: Observe all federal, state, and local environmental regulations.

Contaminated packaging: Dispose of as unused product.

Section 14: Transport Information

DOT (US): Not dangerous goods

IMDG:

UN-Number: 3077 **Class:** 9 **Packing group:** III **EMS-No:** F-A, S-F

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Manganese Sulfate Monohydrate)

Marine pollutant: No

IATA:

UN-Number: 3077 **Class:** 9 **Packing group:** III

Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Manganese Sulfate Monohydrate)

Section 15: Regulatory Information

OSHA Hazards: No known OSHA hazards

DSL Status: All components of this product are on the Canadian DSL list.

SARA Components:

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components:

Manganese Sulfate Monohydrate

CAS-No.

10034-96-5

Revision Date

1987-01-01

SARA 311/312 Hazards: No SARA Hazards

Massachusetts Right To Know Components:

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Manganese Sulfate Monohydrate

CAS-No.

10034-96-5

Revision Date

1987-01-01

New Jersey Right To Know Components

Manganese Sulfate Monohydrate

CAS-No.

10034-96-5

Revision Date

1987-01-01

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: Other Information

ACGIH - American Conference of Governmental Industrial Hygienists

ANSI - American National Standards Institute

CAS - Chemical Abstracts Service

CERCLA - Comprehensive Environmental Response, Compensation & Liability Act of 1980

CFR - Code of Federal Regulations

CHEMTREC - Chemical Transportation Emergency Center

CPR - Controlled Products Regulations

CWC - Chemical Weapons Convention

DOT - U.S. Department of Transportation

DSL - Canadian Domestic Substance List

EHS - Extremely Hazardous Substance

EPA - U.S. Environmental Protection Agency

HMIS - Hazardous Material Identification System

IARC - International Agency for Research on Cancer

LEL/UEL - Lower and Upper Explosive Limit

mg/m³ - Milligrams per cubic meter

MSDS - Material Safety Data Sheet

NAERG - North American Emergency Response Guidebook

NIOSH - National Institute of Occupational Safety and Health

NFPA - National Fire Protection Association

NTP - National Toxicology Program

OSHA - Occupational Safety and Health Administration

PEL - Permissible Exposure Limit (set by OSHA)

PPE - Personal Protective Equipment

RCRA - Resource Conservation and Recovery Act of 1976

SARA - Superfund Amendments and Reauthorization Act

TDG (Canadian): Transport of Dangerous Goods Regulations

TLV - Threshold Limit Value (set by ACGIH)

TWA - 8-hour Time Weighted Average




TSCA - US Toxic Substance Control Act

WHMIS - Workplace Hazardous Material Information System

MSDS Issue Date: n/a

Revised Date: 11-10-2011

Supersedes: n/a

 NFPA Rating Explanation Guide 					
Rating Number	Health Hazard	Flamibility Hazard	Instability Hazard	Rating Symbol	Special Hazard
4	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures	ALK	Alkaline
3	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperature or shock	ACID	Acidic
2	Can cause temporary incapacitation or residual injury	Must be heated or high ambient temperature to burn	Violent chemical change at high temperatures or pressures	BIO	BioHazard
1	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable. High temperatures make unstable	COR	Strong Corrosive
0	No Hazard	Will not burn	Stable	CRYO	Cryogenic
				OXY	Oxidizer
					Radioactive
				W	Reacts violently or explosively with water
				W OX	Reacts violently or explosively with water or oxidizer

This chart for reference only - For complete specifications consult the NFPA Standard

**24 Hour Emergency Phone - Chemtrec: 1-800-424-9300 Transportation
1-800-441-3637 Medical**

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