Material Safety Data Sheet

Manganous Oxide (RXSOL-95-9504-500)

1. Product and Company Identifaction

Product Name	**Manganous Oxide**
Part Number	RXSOL-95-9504-500

Company Details:

RX MARINE INTERNATIONAL
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2. Composition / informationon ingredients

Chemical Name	Concentration	CAS Number
Manganous Oxide	99-100 %	1344-43-0

Chemical Formula : MnO
Molecular weight : 70.9374 g/mol

3. Hazards Identification

Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, the nervous system, liver, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

4. First Aid Measures

Contact with skin	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Contact with eyes	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconsciousn person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
General	Not available.

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 available.
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 mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions: Not applicable.
Special Remarks on Fire Hazards: Contact with combustible or organic materials may cause fire.
Special Remarks on Explosion Hazards: Not available.

6. Accidental Release Measures

Personal Precautions	Avoid dust formation. Avoid breathing vapours, mist or gas. For personal protection see section 8.
Environmental Precautions	Do not let product enter drains.
Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

7. Handling and Storage

Precuation	Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as reducing agents, combustible materials, organic materials, acids.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure controls and personal protection

Engineering Control	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	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Occupational exposure controls	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.
Exposure Limits	CEIL: 5 (mg/m3) from OSHA (PEL) [United States] Inhalation TWA: 0.2 (mg/m3) from ACGIH (TLV) [United States] Inhalation Consult local authorities for acceptable exposure limits.



Goggles

9. Physical and chemical properties

Odour	Odourless
Appearance	Powdered, Light Green / dark Green
pH	NA
Boiling point	NA
Melting Point	535°C (995°)
Vapour pressure	Not known
Odor Threshold	NA

Specific Gravity 5.026 @ 15.6 deg. C(Water = 1)

Vapor Density	Not available.
Solubility	Not soluble in water

10. Stability and reactivity

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatibles
Incompatibility with various substances	Reactive with reducing agents, combustible materials, organic materials, acids.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity:	Incompatible with easily oxidizable materials, sulfur, sulfides, phosphids, hypophosphites, chlorates, peroxides, aluminum powder, rubidium acetylide, potassium azide, chlorine trifluoride. Reacts with hydrochloric acid to form corrosive chlorine gas. Heating or rubbing with material with organic materials can cause fire hazard.
Polymerization	Will not occur.

11. Toxicological information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animal	Acute oral toxicity (LD50): >3478 mg/kg [Rat].
Chronic Effects on Humans	May cause damage to the following organs: blood, the nervous system, liver, central nervous system (CNS).
Other Toxic Effects on Humans	Hazardous in case of skin contact (irritant), of ingestion, of inhalation.
Special Remarks on Toxicity to Animal	NA
Special Remarks on Chronic Effects on Humans	May cause adverse reproductive effects. Decrease of sperm count in human.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: Causes skin irritation. Eyes: Causes eye irritation from mechanical action. Inhalation: Inhalation manganese oxide fume can cause "fume metal fever", a flu-like illness characterized by chills, fever, aching muscles, dryness in the mouth and throat, headache. It may irritate the respiratory tract. It may increase the incidence of upper respiratory tract and pulmonary infections. It may also cause emphysema, and acute pulmonary edema. Absorption of inorganic manganese salts through the lungs is poor, but may occur in chronic poisoning. Ingestion: May cause abdominal pain and nausea. Although manganese salts are poorly absorbed through the intestines, they may produce hypoglycemia, and decreased blood calcium levels could absorption occur. Chronic Potential Health Effects: Chronic exposure to Manganese oxide can lead to manganese poisoning, called Maganism. It primarily involves the central nervous system.

12. Ecological information

Ecotoxicity	NA
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation.	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	NA

13. Disposal considerations

Classification	EU Waste class: -
Disposal considerations	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

UN number
ADR/RID: - IMDG: - IATA: -

UN proper shipping name

ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

Transport hazard class(es)
ADR/RID: - IMDG: - IATA: -

Packaging group
ADR/RID: - IMDG: - IATA: -

Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precautions for user
No data available`

15. Regulatory information

Federal and State Regulations:
Pennsylvania RTK: Manganese dioxide New Jersey: Manganese dioxide TSCA 8(b) inventory: Manganese dioxide SARA 313 toxic chemical notification and release reporting: Manganese dioxide

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS D-2B: Material causing other toxic effects (TOXIC). Manganese Dioxide was tested per IATA Oxidizer test, method 3.5.1.2.1 to determine if it should be classified as an oxidizer. This material does not meet the definition of an oxidizer according to IATA Oxidizer test, method 3.5.1.2.1

DSCL (EEC):

R20/22- Harmful by inhalation and if swallowed. S25- Avoid contact with eyes.

HMIS (U.S.A.):

Health Hazard: 2
Fire Hazard: 0
Reactivity: 0
Personal Protection: E

National Fire Protection Association (U.S.A.):
Health: 2
Flammability: 0
Reactivity: 0
Specific hazard:

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

16. Other information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ***Rx Marine International*** *be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if* ***Rx Marine International*** *has been advised of the possibility of such damages.*