

## MATERIAL SAFETY DATA SHEET (MSDS) MANGANOUS OXIDE

### SECTION 1 - PRODUCER & SUPPLIERS DETAILS

**Manufacturer & Supplier:** NUMINOR CHEMICAL INDUSTRIES LTD.

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ISRAEL.

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### SECTION 2 - CHEMICAL NAME & INFORMATION ON INGREDIENTS

**Chemical Name:** Manganous Oxide: (CAS : 1344-43-0 ) ( EINECS: 215-695-8)

**Symbol:**



Xn - Harmful

**R-Phrases:** R48/20/21/22- Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

**Formula:** MnO  
**Synonyms:** Manganese Oxide  
**% Range:** 54 - 62%

### SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

**Melting Point:** Not Listed.  
**Specific Gravity:** 5.0  
**Solubility in water:** Insoluble  
**Appearance & Odour:** Solid powder(fine),Dark brown-Green in colour, no odour.

## SECTION 4 - HAZARDS IDENTIFICATION

**Physical / chemical hazards :** The data available does not support any physical or chemical hazard.  
**Environmental hazard :** None Listed.

### Adverse human health effects

- **Inhalation :** May cause irritation to the respiratory tract.
- **Skin contact :** Repeated or prolonged skin contact may cause irritation.
- **Eye contact :** Excessive dust exposure may cause eye irritation.
- **Ingestion :** Health hazard if ingested in large quantities, can cause acute chronic damage to health.

## SECTION 5 - FIRE, FIGHTING & EXPLOSION DATA

**Fire:** Non Combustible.  
**Flammability:** Non Flammable  
**Flash point:** Not Combustible  
**Extinguishing media:** In case of fire in immediate vicinity use any extinguishing agent.

**Protection of fire-fighters:** Use breathing apparatus (self-contained breathing apparatus with full face shield). Wear suitable protective clothing.

**Hazardous combustion and:  
decomposition products** None.

## SECTION 6 - STABILITY & REACTIVITY DATA

**Stability:** Stable under ordinary conditions  
**Hazardous Reactions:** Soluble in mineral acids. Dust explosion if mixed with fine organic material and exposed to naked flame. Violent reaction with  $H_2O_2$ ,  $CaOH$ , and  $F_2$ .

**Incompatibility (materials to avoid):** Not Applicable

## SECTION 7 - Toxicological Information

**Acute toxicity**

- **Inhalation:** Causes chills, fever, nausea, vomiting, coughing, weakness and headaches,
- **Dermal:** Exposure can cause skin irritation..
- **Ingestion:** (Oral rat) LD50 = 9g/kg

**Dermal irritation:** Can cause irritation.  
**Eyes irritation:** Not available.  
**Chronic toxicity:** Not available.  
(Section 7 continued-Toxicological Information)

<b>Sensitization:</b>	Not available.
<b>Carcinogenicity:</b>	Not listed by IARC and ACGIH as carcinogen.
<b>Mutagenicity:</b>	Not available.
<b>Reproductive toxicity:</b>	An experimental or tumorigen and mutagen.

**Other toxicological information:** Eye, skin, respiratory kidney or liver diseases or disorders would be aggravated by repeated or prolonged exposure to this chemical. Persons with history of alcoholism, psychiatric, neurological or liver dysfunction would be expected to be at increased risk from exposure.

## SECTION 8 - FIRST AID MEASURES

<b>Effects and symptoms:</b>	Chills, fever, nausea, vomiting, coughing, weakness and headaches, skin irritation.
<b>First aid</b>	
- <b>Skin contact:</b>	Wash immediately with plenty of water and soap/
- <b>Inhalation:</b>	Remove victim to fresh air. Clean nasal cavity with water. Give oxygen if breathing difficulty. Seek medical attention. If feeling unwell, immediately seek medical attention.
- <b>Eye contact:</b>	Rinse immediately with clean water for 15 minutes. If feeling unwell, immediately seek medical attention.
- <b>Ingestion:</b>	Immediately rinse mouth with water. Do not induce vomiting. Give large quantities of water or milk to drink. If feeling unwell, immediately seek medical attention.
<b>Protection of rescue personnel:</b>	Avoid all unnecessary exposure. Use appropriate protection (see Section 9).

## SECTION 9 - PERSONAL PROTECTION & EXPOSURE CONTROLS

- <b>Respiratory protection:</b>	Respiratory protection equipment necessary.
- <b>Hand protection:</b>	Gloves. Material: leather gloves, cotton gloves, rubber gloves.
- <b>Skin protection:</b>	Work clothes.
- <b>Eye protection:</b>	Chemical goggles or safety glasses.

### Occupational Exposure Limits

8 Hour TLV-TWA [mg/m<sup>3</sup>] : 0.2 (Dust)

**Engineering measures:** Mechanical ventilation is recommended.

## SECTION 10 - ACCIDENTAL RELEASE MEASURES & SPILL LEAK PROCEDURES

<b>Personal precautions:</b>	Wear suitable gloves and eye/face protection. Avoid dust creation.
<b>Environmental precautions:</b>	Avoid allowing product to enter drains, sewage system, ground water.
<b>Methods for cleaning up:</b>	Sweep up and shovel into suitable containers for disposal. Re-use or recycle waste.

## SECTION 11 - HANDLING AND STORAGE

<b>Handling &amp; storing:</b>	Good housekeeping - store in a cool dry place - keep containers shut. Avoid making dust.
<b>Packing Materials:</b>	All materials suitable.

## SECTION 12 - ECOLOGICAL INFORMATION

<b>Persistence and degradability:</b>	Not applicable.
<b>Bioaccumulative potential:</b>	Not applicable.
<b>WGK (Germany):</b>	1
<b>Ecotoxicity:</b>	Not applicable
<b>Mobility:</b>	Not applicable.

## SECTION 13 - DISPOSAL CONSIDERATIONS

<b>Disposal:</b>	Comply with local regulations for disposal.
<b>Waste of residues:</b>	This material and its container should be labeled H.
<b>Contaminated packaging:</b>	Keep waste packaging separate. Waste should be disposed of in a permitted chemical waste facility.

## SECTION 14 - TRANSPORT INFORMATION

Hazard Labels:	Not restricted.
H.S. Code:	2820.9000
UN - No:	Not Listed.
ADR/RID/ADNR/IMO-IMDG:	Not restricted.
Shipping Name:	Manganous Oxide
Packaging Group:	Not Applicable
IMDG-Marine Pollution	No
EMS No.	Not available.
MFAG Table	Not available.

## SECTION 15 - REGULATORY INFORMATION

Symbol:  Xn - Harmful

R Phrase(s): R48/20/21/22- Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

S Phrase(s): S3,8,9,: Keep container in a cool, dry, well ventilated place.  
S20,22,26: When using do not eat or drink. Do not breathe dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

## SECTION 16 - OTHER INFORMATION

Date of Issue: June 2008  
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MSDS prepared by: AVK

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