



# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: January 08, 2018

Revision: January 08, 2018


## 1 Identification

- **Product identifier**
- **Trade name: Z-Ox – Manganese Dioxide Coated Zeolite**
- **Other means of identification:** Greensand filter media replacement
- **Recommended use and restriction on use**
- **Recommended use:**  
Water filter media / Water purification filter media for the removal of heavy metals and sulfur compounds.
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
ZEO, Inc.  
2104 Augusta Street  
McKinney, TX 75070  
Phone: +1-972-542-0053  
Fax: +1-972-542-0211
- **Emergency telephone number:** +1-972-542-0053

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
STOT RE 2 H373 May cause damage to the brain through prolonged or repeated exposure. Route of exposure: Inhalation.

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- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**  
  
GHS08
- **Signal word:** Warning
- **Hazard statements:**  
H373 May cause damage to the brain through prolonged or repeated exposure. Route of exposure: Inhalation.
- **Precautionary statements:**  
P260 Do not breathe dust.  
P314 Get medical advice/attention if you feel unwell.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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- **Other hazards**  
There are no other hazards not otherwise classified that have been identified.

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## 3 Composition/information on ingredients

**· Chemical characterization: Mixtures****· Components:**

12173-10-3	Clinoptilolite Zeolite/ Potassium, Calcium, Sodium Aluminosilicate	50-100%
1313-13-9	manganese dioxide  STOT RE 2, H373  Acute Tox. 4, H302; Acute Tox. 4, H332	<10%
7732-18-5	water	<10%

**· Additional information:** For the wording of the listed Hazard Statements, refer to section 16.

## 4 First-aid measures

**· Description of first aid measures****· After inhalation:**

Supply fresh air; consult doctor in case of complaints.  
 Provide oxygen treatment if affected person has difficulty breathing.

**· After skin contact:**

Clean with water and soap.  
 Seek medical treatment in case of complaints.

**· After eye contact:**

Remove contact lenses if worn.  
 Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**· After swallowing:**

Rinse out mouth and then drink plenty of water.  
 Do not induce vomiting; immediately call for medical help.

**· Most important symptoms and effects, both acute and delayed:** Gastric or intestinal disorders**· Danger:**

May be harmful if inhaled.  
 May cause damage to the brain through prolonged or repeated exposure. Route of exposure: Inhalation.

**· Indication of any immediate medical attention and special treatment needed:** Treat symptomatically.

## 5 Fire-fighting measures

**· Extinguishing media****· Suitable extinguishing agents:**

The product is not flammable.  
 Use fire fighting measures that suit the environment.

**· For safety reasons unsuitable extinguishing agents:** None.**· Special hazards arising from the substance or mixture:** No relevant information available.**· Advice for firefighters****· Protective equipment:**

Wear self-contained respiratory protective device.  
 Wear fully protective suit.

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## 6 Accidental release measures

### · Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Do not breathe dust.

Use respiratory protective device against the effects of fumes/dust/aerosol.

For large spills, wear protective clothing.

### · Environmental precautions No special measures required.

### · Methods and material for containment and cleaning up

Pick up mechanically.

Send for recovery or disposal in suitable receptacles.

### · Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

### · Handling

#### · Precautions for safe handling:

Open and handle receptacle with care.

Use only in well ventilated areas.

Do not breathe dust.

#### · Information about protection against explosions and fires: No special measures required.

#### · Conditions for safe storage, including any incompatibilities

#### · Requirements to be met by storerooms and receptacles:

Storage area should be dry and well-ventilated.

#### · Information about storage in one common storage facility: Not required.

#### · Specific end use(s) No relevant information available.

## 8 Exposure controls/personal protection

### · Control parameters

#### · Components with limit values that require monitoring at the workplace:

##### 12173-10-3 Clinoptilolite Zeolite/ Potassium, Calcium, Sodium Aluminosilicate

OSHA PEL (USA) Ceiling limit value: 15 mg/m<sup>3</sup>

##### 1313-13-9 manganese dioxide

PEL (USA) Ceiling limit value: 5 mg/m<sup>3</sup>  
as MnREL (USA) Short-term value: 3 mg/m<sup>3</sup>  
Long-term value: 1 mg/m<sup>3</sup>  
as MnTLV (USA) Long-term value: 0.02\* 0.1\*\* mg/m<sup>3</sup>  
as Mn; \*respirable \*\*inhalable fractionEL (Canada) Long-term value: 0.2 mg/m<sup>3</sup>

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LMPE (Mexico)

as Mn; R  
Long-term value: 0.2 mg/m<sup>3</sup>  
como Mn**Exposure controls****General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Do not breathe dust.

Avoid contact with the eyes.

Keep away from foodstuffs, beverages and feed.

**Engineering controls:** Provide adequate ventilation.**Breathing equipment:**

NIOSH or EU approved dust respirator should be used for operations generating dust.

Wear appropriate NIOSH respirator when ventilation is inadequate and occupational exposure limits are exceeded.

For spills, respiratory protection may be advisable.

**Protection of hands:**

Gloves not required under normal conditions of use.

When needed, wear gloves for protection against mechanical hazards.

**Eye protection:** Follow relevant national guidelines concerning the use of protective eyewear.**Body protection:**

Not required under normal conditions of use.

Protection may be required for spills.

**Limitation and supervision of exposure into the environment** No special requirements.**Risk management measures** No special requirements.

## 9 Physical and chemical properties

**Information on basic physical and chemical properties****Appearance:****Form:** Powder to granulate**Color:** According to product specification**Odor:** Odorless**Odor threshold:** Not determined.**pH-value:** Not applicable.**Melting point/Melting range:** Not determined.**Boiling point/Boiling range:** Not determined.**Flash point:** Not applicable.**Flammability (solid, gaseous):** Not determined.**Auto-ignition temperature:** Not determined.**Decomposition temperature:** Not determined.**Danger of explosion:** Product does not present an explosion hazard.**Explosion limits****Lower:** Not determined.

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· <b>Upper:</b>	Not determined.
· <b>Oxidizing properties:</b>	Non-oxidizing.
· <b>Vapor pressure:</b>	Not applicable.
· <b>Density:</b>	
<b>Relative density:</b>	>1 g/cm <sup>3</sup> (>8.35 lbs/gal)
<b>Vapor density:</b>	Not applicable.
<b>Evaporation rate:</b>	Not applicable.
· <b>Solubility in / Miscibility with Water:</b>	Insoluble.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
· <b>Other information</b>	No relevant information available.

## 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** Reacts with strong acids and alkali.
- **Conditions to avoid** Prevent formation of dust.
- **Incompatible materials** No relevant information available.
- **Hazardous decomposition products** No relevant information available.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** May be harmful if inhaled.
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:** Based on available data, the classification criteria are not met.
- **On the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:**  
Overexposure to manganese fumes may affect the brain and central nervous system, resulting in poor coordination, difficulty speaking, and arm or leg tremor. This condition can be irreversible.

**IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

**NTP (National Toxicology Program):**

None of the ingredients are listed.

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**· OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

**· Probable route(s) of exposure:**

Ingestion.  
Inhalation.  
Eye contact.  
Skin contact.

- **Repeated dose toxicity:** Long term inhalation of product dust may be harmful.
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:**  
May cause damage to the brain through prolonged or repeated exposure. Route of exposure: Inhalation.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

**12 Ecological information**

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability**  
Inorganic product, is not eliminable from water by means of biological cleaning processes.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:** Not known to be hazardous to water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**  
Contact waste processors for recycling information.  
Smaller quantities can be disposed of with household waste.  
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

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- |  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  | Not regulated.  |
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  | Not regulated.  |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  |                 |
| · <b>Class</b>   | Not regulated.  |
| · <b>Packing group</b>   |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  | Not regulated.  |
| · <b>Environmental hazards</b>   |                 |
| · <b>Marine pollutant:</b>   | No              |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **United States (USA)**
  - **SARA**
- |  |
|--|
| · <b>Section 302 (extremely hazardous substances):</b>               |
| None of the ingredients are listed.                                  |
| · <b>Section 355 (extremely hazardous substances):</b>               |
| None of the ingredients are listed.                                  |
| · <b>Section 313 (Specific toxic chemical listings):</b>             |
| 1313-13-9   manganese dioxide  |
| · <b>TSCA (Toxic Substances Control Act)</b>                         |
| All ingredients are listed or exempt.                                |
| · <b>Proposition 65 (California)</b>                                 |
| · <b>Chemicals known to cause cancer:</b>                            |
| None of the ingredients are listed.                                  |
| · <b>Chemicals known to cause reproductive toxicity for females:</b> |
| None of the ingredients are listed.                                  |
| · <b>Chemicals known to cause reproductive toxicity for males:</b>   |
| None of the ingredients are listed.                                  |
| · <b>Chemicals known to cause developmental toxicity:</b>            |
| None of the ingredients are listed.                                  |

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**· EPA (Environmental Protection Agency):**

1313-13-9 | manganese dioxide

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**· IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

**· NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients are listed.

**· Canadian Domestic Substances List (DSL):**

All ingredients are listed or exempt.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** January 08, 2018 / -

**· Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulable, Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety &amp; Health Administration

Acute Tox. 4: Acute toxicity – Category 4

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

**· Sources**Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sor-internet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sor-internet/registry/substreg/home/overview/home.do))Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://www.cas.org))

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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