

GHS Safety Data Sheet

SDS No. : MNE01PAEG

Date Issued : 2015/01/19
Last updated : 2019/09/27

Section 1. Identification of the substance or mixture and of the supplier

Product Information

Product name: Mn Manganese

| Product number: | Purity | Form | Size or Shape |
|-----------------|-------------|--------|---------------|
| MNE01PB | 99.9%(3N)up | powder | 300 µm pass |
| MNE05PB | 3NG | powder | 75 µm pass |
| MNE03PB | 99%(2N) | powder | 75 µm pass |

Company Information:

Manufacturer : Kojundo Chemical Laboratory Co., Ltd.
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Recommended uses and restrictions on use: For research purposes

Section 2. Hazards identification

GHS Classification

| Health Hazards | Environmental Hazards | Physical Hazards |
|--|---|--------------------------------------|
| Serious eye damage/eye irritation: Category 2B Reproductive toxicity : Category 1B Specific target organ toxicity, single exposure : Category 1 Specific target organ toxicity, repeated exposure : Category 1 | Hazardous to the aquatic environment, chronic toxicity : Category 4 | Flammable solids : Category 2 |

GHS Label: F, C



Pictograms or symbols:

Warning word: DANGER

| Hazard information | Description of precaution |
|---|---|
| Flammable solid Causes eye irritation May damage fertility or the unborn child Causes damage to organs (respiratory system) Causes damage to organs (respiratory system, nervous system) through prolonged or repeated exposure May cause long lasting harmful effects to aquatic life | Obtain special instructions. Read and understand all safety precautions before handling. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use explosion-proof electrical/ventilating/lighting/.../equipment. Take precautionary measures static discharge. Wear protective gloves/protective clothing/eye protection/respiratory protection/face protection during handling. Avoid breathing dust/mist/gas/fume/vapors/spray. Do not eat, drink or smoke when using this product, and wash hands thoroughly after handling. IN CASE OF FIRE: Wear protective gloves/eye protection/face protection. Use 《refer to our SDS》 to extinguish. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/physician if you feel unwell. Store locked up. Dispose of contents/ container in accordance with local/national regulations. |



High Purity Materials

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Section 3. Composition / information on ingredients

| | |
|-------------------------------|------------------|
| Chemical or common name: | Manganese |
| Chemical formula: | Mn |
| Single Substance or Compound: | Single substance |
| Composition: | 100% |
| CAS #: | 7439-96-5 |
| RTECS#: | OO9275000 |
| TSCA inventory : | listed |
| EINECS: | 2311051 |

Section 4. First aid measures

| | |
|---------------|---|
| Eye contact: | Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention. |
| Skin contact: | Promptly flush contaminated skin with soap or mild detergent and water. Contact physician if irritation continues. |
| Inhalation: | Remove the exposed person immediately and provide fresh air. Get medical attention. |
| Ingestion: | Rinse mouth and throat with water. Get medical attention immediately. |

Section5. Fire fighting measures

| | |
|----------------------|---|
| Extinguishing media: | Dry sand, Perlite ,Metal fire extinguishers. DO NOT use water fog or foam, carbon dioxide. |
| Fire fighting: | Flammable material. Remove containers to safe place if possible. Self-contained breathing apparatus and full protective clothing should be used, if the material is involved in fire. |

Section 6. Accidental release measures

Personal Precautions:

Workers should use protective wears to prevent contact with the spilt adhesive and inhalation of its vapor/dusts.

Environmental hazard precautions:

Shut off leak if without risk.
Prevent flow out to river, etc. so as not to badly affect.

Method for containment and cleaning up:

Remove all sources of ignition.
Avoid unnecessary contacts with spills.
Indoor leakage: Ventilate as much as possible until the cleaning is completed.
Outdoor leakage: Work from the windward and evacuate the leeward crowd.
Absorb or cover with vermiculite or other suitable absorbent, and dispose of DOT-approved waste containers as much as possible.
Carefully wash spill site with plenty of water after material pick up.

Section 7. Handling and storage

Precautions to be taken in handling:

| | |
|----------------|---|
| Safe handling: | Use protective wears and local ventilation equipment, if inhalation or skin contact is foreseen. Avoid prolonged or repeated exposure. Air and moisture sensitive. Light sensitive. Keep away from heat, sparks and naked flame. |
|----------------|---|



Electrically ground all equipment when handling this material and use only non-sparking tools.

Precautions to be taken in storage:

General precautions: Store the material in a sealed container.
Store in a cool, dry, well ventilated and dark place away from incompatible materials.
Keep away from any heat, sparks, and flames.

Section 8. Exposure controls / personal protection

Exposure guideline: ACGIH (2019) : TLV-TWA 0.02 mg/m³(R), 0.1 mg/m³(I)

OSHA (2006) : PEL-TWA 5 mg/m³(C)

R: respirable particles, I: inhalable particles, C: Ceiling limit

Facility measures: Local ventilation of closed work room or total proper ventilation to prevent inhalation.

Protective ware: Wear appropriate NIOSH/MSHA-approved respirator, safety goggles, protective gloves.

Section 9. Physical and chemical properties

Color and Form: Gray powder

Chemical formula: Mn

Formula weight: 54.9

Melting point: 1244 °C

Boiling point: 1962 °C

Specific gravity: 7.44 g/cm³

Solubility: Soluble; water (slowly), Reacts with acids and forms hydrogen

Flammability: Combustible substance

Oxidation: None

Section10. Stability and reactivity

Stability: Stable in closed container under room temperature.

Reactivity: Powder easily oxidized.

Condition to avoid: Air, heat, moisture

Incompatibility: Acids, bases, halogens, phosphorus, sulfur oxides, oxidizing agents.

Section11. Toxicological information

Acute toxicity(Oral): GHS : Not classified ; Falls below the lowest level.
Oral rat LD50 = 9000 mg/kg (RTECS(2004))

Skin corrosive / irritation: GHS : Not classified ; Falls below the lowest level.

Serious eye damage / irritation: GHS : Category 2B ; Causes eye irritation

Respiratory sensitization: GHS : No data available

Skin sensitization: GHS : No data available

Germ cell mutagenicity: GHS : No data available

Carcinogenicity: GHS : Not classified ; Falls below the lowest level.

Carcinogenicity:

| Chemical Name | ACGIH (2019) | IARC (2018) | NTP (2016) |
|---------------|--------------|-------------|------------|
| Manganese | A4 | — | — |

ACGIH(2019) A4 Not classifiable as a Human Carcinogen.

Reproductive toxicity: GHS : No data available

Specific target organ toxicity

— single exposure: GHS : Category 1 ; Cause damage to organs (respiratory system)



High Purity Materials

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– repeated exposure: GHS : Category 1 ;
Causes damage to organs (respiratory system, nervous system)
through prolonged or repeated exposure

Aspiration hazard: GHS : No data available

Section 12. Ecological information

Ecotoxicity:

Hazardous to the aquatic environment

– acute toxicity: GHS : No data available

– chronic toxicity: GHS : Category 4 ;

May cause long lasting harmful effects to aquatic life

Hazardous to the ozone layer GHS : No data available

No Freon or Halon

Fish toxicity: No data available

Degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Section 13. Disposal considerations

Disposal method: User of the product should contract with the local government or licensed
‘Industrial Waste Haulers’ for disposal of waste.

Section 14. Transport information

UN number: 3089

IATA shipping name: Metal powder, flammable, n.o.s.

IATA hazard class: Class 4.1 (Flammable solids)

IATA packing group: III

HS code: 8111.00

Marine pollution: None

Precautions: Container should be transported in a secure position, in a well-ventilated
vehicle.

Section 15. Regulatory information

TSCA inventory: Listed.

Please refer to any other local / national measures that may be relevant.

Section 16. Other information

The information described above is believed to be correct. However, Kojundo Chemical Lab.
makes no representation, warranty nor guarantee of any kind with respect to the
information on this data sheet or any use of the product based upon this information.

