

Material Safety Data Sheet (MSDS) - Manganese Dioxide

SECTION 1: IDENTIFICATION

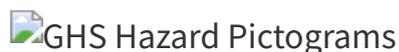
- **Product Name:** Manganese Dioxide
 - **Synonyms:** Manganese(IV) oxide, Pyrolusite
 - **Recommended Use:** Industrial chemical for manufacturing permanganates and other manganese salts.
 - **Supplier Details:**
 - **Company Name:** BTLnewmaterial
 - **Address:** Room 706, No. 154, Wuyi East Road, Niezhou Residential Committee, Caizichi Sub-district Office, Leiyang City, Hengyang City, Hunan Province, China
 - **Email:** lixifirm@outlook.com
 - **Phone:** +8618273793022
 - **Website:** manganesesupply.com
 - **Emergency Phone Number:** +8618273793022
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SECTION 2: HAZARD(S) IDENTIFICATION

- **GHS Classification:**
 - Acute toxicity, Oral (Category 4)
 - Acute toxicity, Inhalation (Category 4)
 - Specific target organ toxicity - repeated exposure (Category 2)

- **GHS Label Elements:**

- **Pictogram:**



- **Signal Word:** Warning

- **Hazard Statements:**

- H302: Harmful if swallowed.
- H332: Harmful if inhaled.
- H373: May cause damage to organs (Brain) through prolonged or repeated exposure if inhaled.

- **Precautionary Statements:**

- P260: Do not breathe dust/fume/gas/mist/vapors/spray.
- P264: Wash skin thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P314: Get medical advice/attention if you feel unwell.
- P501: Dispose of contents/container to an approved waste disposal plant.

- **Other Hazards:** None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Manganese Dioxide	1313-13-9	90-95%

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:** Flush eyes with water as a precaution.
 - **If Swallowed:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
 - **Most Important Symptoms and Effects, Both Acute and Delayed:** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
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SECTION 5: FIRE-FIGHTING MEASURES

- **Suitable Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
 - **Special Hazards Arising from the Substance or Mixture:** Not flammable or combustible. Emits toxic fumes under fire conditions (Manganese oxides).
 - **Advice for Firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.
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SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal Precautions, Protective Equipment and Emergency Procedures:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
- **Environmental Precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

- **Methods and Materials for Containment and Cleaning Up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
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SECTION 7: HANDLING AND STORAGE

- **Precautions for Safe Handling:** Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
 - **Conditions for Safe Storage, Including Any Incompatibilities:** Keep container tightly closed in a dry and well-ventilated place. Store in a cool place.
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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Control Parameters:** Contains no substances with occupational exposure limit values.
- **Appropriate Engineering Controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.
- **Personal Protective Equipment:**
 - **Eye/Face Protection:** Safety glasses with side-shields conforming to EN166.
 - **Skin Protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
 - **Body Protection:** Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
 - **Respiratory Protection:** For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type

OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** Form: powder, Colour: black, brownish-black
 - **Odor:** Odorless
 - **Odor Threshold:** No data available
 - **pH:** Not available
 - **Melting point/freezing point:** 535 °C (decomposes)
 - **Initial boiling point and boiling range:** Not applicable
 - **Flash point:** Not applicable
 - **Evaporation rate:** No data available
 - **Flammability (solid, gas):** Not flammable
 - **Upper/lower flammability or explosive limits:** Not applicable
 - **Vapor pressure:** Not available
 - **Vapor density:** Not available
 - **Relative density:** 5.026 g/cm³
 - **Solubility(ies):** Insoluble in water
 - **Partition coefficient: n-octanol/water:** Not applicable
 - **Auto-ignition temperature:** Not applicable
 - **Decomposition temperature:** > 535 °C
 - **Viscosity:** No data available
 - **Explosive properties:** Not explosive
 - **Oxidizing properties:** The substance or mixture is not classified as oxidizing.
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SECTION 10: STABILITY AND REACTIVITY

- **Reactivity:** No data available
 - **Chemical stability:** Stable under recommended storage conditions.
 - **Possibility of hazardous reactions:** No data available
 - **Conditions to avoid:** No data available
 - **Incompatible materials:** Strong reducing agents, Strong acids
 - **Hazardous decomposition products:** Hazardous decomposition products formed under fire conditions. - Manganese oxides
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SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute toxicity:** LD50 Oral - Rat - > 3,478 mg/kg
 - **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
 - **Carcinogenicity:** This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.
 - **Reproductive toxicity:** No data available
 - **Specific target organ toxicity - single exposure:** No data available
 - **Specific target organ toxicity - repeated exposure:** May cause damage to organs through prolonged or repeated exposure.
 - **Aspiration hazard:** No data available
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SECTION 12: ECOLOGICAL INFORMATION

- **Toxicity:** No data available
- **Persistence and degradability:** No data available

- **Bioaccumulative potential:** No data available
 - **Mobility in soil:** No data available
 - **Other adverse effects:** No data available
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SECTION 13: DISPOSAL CONSIDERATIONS

- **Waste treatment methods:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
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SECTION 14: TRANSPORT INFORMATION

- **DOT (US):** Not dangerous goods
 - **IMDG:** Not dangerous goods
 - **IATA:** Not dangerous goods
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SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. Safety, health and environmental regulations/legislation specific for the substance or mixture: No data available

SECTION 16: OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to

appropriate safety precautions. It does not represent any guarantee of the properties of the product. BTLnewmaterial and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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