



Chemistry for Safer, Sustainable Life

# SAFETY DATA SHEET

## Section 1: Identification

**Product Name:** Manganese (II) formate dihydrate

**Product ID:** 100FO74

**CAS:** 3251-96-5

**Chemical Name/Synonyms:** Formic acid manganese (II) salt dihydrate, manganese (II) methanoate dihydrate, manganese diformate dihydrate

**Molecular Formula:** C<sub>2</sub>H<sub>6</sub>MnO<sub>6</sub>

**Molecular weight:** 181.07 g/mol

**Potential Uses:** catalyst, paint dryer, reagent, manganese oxide precursor, MOF ingredient, ceramics precursor, lithium ion battery cathode precursor, etc.

**Company:** BioFuran Materials LLC

920 William Pitt Way, Pittsburgh, PA 15238

**In emergency call 911 or for information about this SDS, use this contact phone#:** 412-376-7101

## Section 2: GHS Hazard(s) Identification

**Hazard Classification:** Manganese (II) formate dihydrate is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200).  
May be harmful if swallowed (Category 2), H303  
May cause severe skin burns and eye damage (Category 1), H314

**Signal Word(s):** Danger

**Pictograms:**



**Precautionary Statements:**

P280 – Wear protective gloves / protective clothing, eye protection / face protection

P264 – Wash hands thoroughly after handling

P302+P352 – If on skin, wash with plenty of soap and water

P332+P313 – If skin irritation occurs, get medical advice / attention

P305+P351+P338 – If in eyes, rinse thoroughly with water for several minutes. Remove contact lenses if present. Continue rinsing for several minutes.

P337+P313 – If eye irritation persists, get medical advice/attention

P321 – See first aid instructions on this SDS

P362+P364 – Take off contaminated clothing and wash them before reuse.

**Description of other hazards:** none available

### Section 3: Composition/ Information on Ingredients

Chemical Name	Synonym	CAS#	Conc.
Manganese (II) formate dihydrate	Formic acid manganese (II) salt dihydrate	3251-96-5	100%

### Section 4: First-Aid Measures

**After skin contact:** Wash off with soap and plenty of water. Consult a physician.

**After eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**After inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**After swallowing:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### Section 5: Fire-Fighting Measures

**Suitable extinguishing agents:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters:** Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

### Section 6: Accidental Release Measures

**Personal precautions:** Wear protective equipment as described in Section 8.

**Measures for environmental protection:** Do not dispose product in municipal sewers or drains. Notify authorities if product enters sewers or public waters.

**Measures for cleaning/collecting:** Pick up and arrange disposal without creating dust. Sweep up and shovel any spillages. Keep all wastes and residues in suitable, closed containers for disposal.

### Section 7: Handling and Storage

**Handling:** Avoid contact with skin and eyes. Avoid dust formation and do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust.

**Storage:** Keep container tightly closed.

### Section 8: Exposure Controls/Personal Protection

**General protective and hygienic measures:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

**Breathing equipment:** Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified dust and mist (teal cartridge) respirator.

**Protection of hands:** Neoprene or nitrile rubber gloves.

**Eye protection:** Chemical goggles. Contact lenses should not be worn.

**Skin protection:** Long sleeved clothing should not be worn.

**Engineering measures:** Ensure adequate ventilation in work room.

### Section 9: Physical and Chemical Properties

**Appearance:** Off-white crystalline powder  
**Odor:** No data available  
**pH:** No data available  
**Melting point/melting range:** Dehydrates/melts around 126-133°C.  
**Boiling point/boiling range:** No data available  
**Flash point:** No data available  
**Evaporation rate:** No data available  
**Flammability:** No data available  
**Upper/lower flammability or explosive limits:** No data available  
**Auto ignition temperature:** No data available  
**Danger of explosion:** No explosion hazards known  
**Vapor pressure:** No data available  
**Vapor density:** No data available  
**Relative density:** No data available  
**Solubility in/Miscibility with water:** moderately soluble in water

### Section 10: Stability and Reactivity

**Reactivity:** No data available  
**Chemical stability:** Stable under ambient conditions  
**Conditions to avoid:** Avoid breathing dust. Avoid direct contact with eyes or skin.  
**Incompatible materials:** strong oxidizing agents, phosphates, soluble carbonates, and sulfuric acid  
**Hazardous decomposition products:** Metal fumes and metal oxides, oxides of carbon

### Section 11: Toxicological Information

**Acute toxicity:** No data available  
**Potential routes of exposure/potential health effects**  
**Skin:** Causes severe skin irritation  
**Eye:** Causes severe eye irritation  
**Inhalation:** May cause irritation  
**Ingestion:** No data available  
**Carcinogenic effects:** No data available  
**Mutagenic effects:** No data available  
**Reproductive toxicity:** No data available  
**Sensitization:** possible through inhalation or skin contact  
**Target organs:** No data available

### Section 12: Ecological Information (non-mandatory)

**Ecotoxicity:** No data available.  
**Mobility:** Moderately soluble in water but persistence maybe unlikely.  
**Biodegradation:** No data available  
**Bioaccumulation:** No data available

### Section 13: Disposal Considerations (non-mandatory)

This material or its residues should not be disposed in drains or in regular trash cans. Contact a licensed waste disposal professional to dispose this material or its residues.

### Section 14: Transport Information (non-mandatory)

**DOT regulations:** Not regulated as dangerous goods

- **Land transport ADR/RID (cross-border):** Not regulated for transport
- **Maritime transport IMDG:** Not dangerous goods
- **Air transport ICAO-TI and IATA-DGR:** Not dangerous goods

### Section 15: Regulatory Information (non-mandatory)

#### US Federal Regulations

**SARA Section 302:** This material is not subject to reporting requirements of SARA Title III, Section 302

**SARA Section 313:** This material is subject to reporting levels established by SARA Title III, Section 313

**TSCA (Toxic Substances Control Act):** Manganese (II) formate dihydrate is listed on the United States TSCA

### Section 16: Other Information

**SDS date of preparation/update:** 09/10/2020 Version 001