

Safety Data Sheet
Manganese Metal



SECTION 1: IDENTIFICATION

Product Name: Manganese Metal

CAS No.: 7439-96-5

Chemical Formula: Mn

Other Names: Electrolytic Manganese, Manganese, Manganese Electrolytic Powder, Manganese Flake, Metallic Manganese, Mn

Intended Use / Restrictions on Use:

For professional/industrial use only.

Contact Information:

Greenwich Metals, Inc.

165 West Putnam Ave.

Greenwich, CT 06830

Phone: 203-622-4848

Emergency Contact:

Chemtrec – call 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

Classification:

Substance and Mixture, which in contact with water, emit flammable gases (Category 1) – H260

Acute aquatic toxicity (Category 3) – H402

Chronic aquatic toxicity (Category 3) – H412

Label Elements:

Hazard Pictograms:



GHS02

Signal Word:

Danger

Hazard Statements:

H260 – In contact with water release flammable gases which may ignite spontaneously

H412 – Harmful to aquatic life with long lasting effects.

Precautionary Statements:

P223 – Keep away from any possible contact with water, because of violent reaction and possible flash fire. P231+P232 – Handle under inert gas. Protect from Moisture. P280 – Wear eye protection, protective clothing, protective gloves. P335 – Brush off loose particles from skin. P370+P378 – In case of fire: Use dry sand, dry chemical, or alcohol resistant foam for extinguishing. P501 – Dispose of contents/container in accordance with local, regional, national and international regulations.

Other Hazards:

None

Unknown Acute Toxicity Statement:

Not Applicable

SECTION 3: COMPOSITION

Name: Manganese Metal

Synonyms: Electrolytic Manganese, Manganese, Manganese Electrolytic Powder, Manganese Flake, Metallic Manganese, Mn

Chemical Name	CAS Number	% by Weight
Manganese (Mn)	7439-96-5	>99.7

Mixture:

Not applicable

SECTION 4: FIRST AID MEASURES

Required Treatment:

After inhalation, move to fresh air and rest in a position comfortable for breathing.

After skin contact, wash skin thoroughly.

After eye contact, remove contact lenses if applicable and flush eyes with water for at least 15 minutes.

After ingestion, do not induce vomiting. Call poison control center or doctor.

Important Symptoms & Effects, Acute & Delayed:

Notable symptoms listed in Section 11. If feeling un-well after exposure, consult with a doctor.

Indication of Medical Attention:

If any acute or chronic symptoms arise or if feeling unwell after exposure, seek medical advice.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Techniques/Equipment:

Use dry agent such as dry powder, sand, or talc. Use extinguishing media appropriate for surrounding media. Do not use water.

Chemical Hazards from Fire:

May react violently with water creating flammable hydrogen gas.

Special Equipment and Precautions for Firefighters:

Exercise caution. If entering fire area, wear proper protective equipment including respiratory protection if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures/Personal Protection:

Avoid all contact with skin, eyes, or clothing. Avoid breathing fumes and dust.

Evacuate all unnecessary personnel.

Protective Equipment:

Use appropriate personal protection equipment (PPE), as listed in section 8.

Methods of Containment & Cleanup:

Sweep up using a natural fiber brush and non-sparking pan. Dry, clean material may be re-used. Wet or contaminated material should be placed in a lock-top steel container and stored in a safe outside area physically separated from other activities. Wet manganese will oxidize, generate heat and hydrogen gas which may auto-ignite.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling:

When solid, practice good industrial hygiene and safety procedures. Do not allow dust or powder to accumulate on equipment or building surfaces. Clean exposed areas.

Precautions for Safe Storage:

Store in cool, dry and well ventilated location. Seal containers. Keep away from incompatible materials such as water and aqueous solutions, acids, halogen gases, alkalis, and hydrogen peroxide.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters:

USA ACGIH	ACGIH TWA (mg/m ³)	0.20 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1.0 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5.0 mg/m ³

Engineering Controls:

Ensure adequate ventilation. Emergency eye wash stations and safety showers should be nearby any potential exposure. Ensure national/local regulations are observed.

Personal Protective Equipment:

Protective goggles, gloves and clothing. If insufficient ventilation, wear respiratory protection.

Materials for Protective Clothing: Wear chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant gloves. If working with molten or hot material, wear thermally resistant gloves.

Eye Protection: Chemical goggles or safety glasses should be worn at all times. For furnace work, wear a face shield or safety glasses.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Thermal Hazard Protection: For furnace work, fire retardant clothing, gloves, and safety shoes should be worn.

Consumer Exposure Controls: Do not eat, drink, or smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid (Metal)

Color: Grey

Taste: N/A

Molecular Weight: 54.94 g/mol

Odor: N/A

Odor Threshold: N/A

pH: N/A

Melting Point: 1246 °C (2275 °F)

Boiling Point: 1962 °C (3564 °F)

Boiling Range: N/A

Flash Point: N/A

Evaporation Rate: N/A

Flammability: N/A

Upper/Lower Flammability Limits: N/A

Vapor Pressure: N/A

Vapor Density: N/A

Relative Density: 7.3 g/mL at 25 °C

Solubility: Insoluble in water

Partition Coefficient: N/A

Auto-ignition Temperature: N/A

Decomposition Temperature: N/A

Viscosity: N/A

SECTION 10: STABILITY AND REACTIVITY

Reactivity: May react violently with water.

Stability: Stable under proper handling and storage conditions.

Hazardous Reactions: Oxidation in water leads to hydrogen production.

Conditions to Avoid: Avoid incompatible materials, dust generation, moisture, excess heat.

Incompatible Materials: Water and aqueous solutions, acids, halogen gases, alkalis, and hydrogen peroxide.

Hazardous Decomposition Products: Hydrogen gas formed by oxidation in water.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Exposure

Inhalation of dust, fumes. Skin contact through physical contact. Eye contact through physical contact or dust and fumes. Ingestion through contamination of skin/surfaces.

Chronic and Acute Related Symptoms/Effects:

Inhalation of fumes or dust can cause respiratory irritation. Skin contact with molten metal can cause burns. Dust or fumes can cause eye irritation. Ingestion can cause harmful effects. Chronic exposure may cause manganese poisoning. Symptoms include lethargy and weakness in legs. Advanced stage may cause neurological and neurobehavioral effects.

Measures of Toxicology:

Acute Toxicity: Not Classified

Skin Corrosion/Irritation: Not Classified

Serious Eye Damage/ Irritation: Not Classified

Respiratory or Skin Sensitization: Not Classified

Germ Cell Mutagenicity: Not Classified

Reproductive Toxicity: Not Classified

Carcinogenic Information: IARC Group: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Toxic to aquatic life.

Persistence and Degradability: No data available

Bioaccumulative Potential: No data available

Mobility in Soil: No data available

Other Adverse Effects:

Prevent entry to sewers and public waterways. Avoid release to the environment. Ensure accordance with national and local regulations.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of waste in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORTATION INFORMATION

UN Number: 3208

UN Proper Shipping Name: Metallic Substance, Water-Reactive, N.O.S. (Manganese)

Transport Hazard Classes: 4.3

Packing Group: I

Environmental Hazards: Do not release to waterways.
Transport in Bulk: N/A
Special Precautions: Keep dry.

SECTION 15: REGULATORY INFORMATION

US Federal Regulations:

SARA Section 302 – None

SARA Section 311/312 Hazard Classes – Delayed (chronic) Health Hazard, Reactivity Hazard

SARA Section 313 Emissions Reporting – Manganese CAS-No. 7439-96-5

US State Regulations:

California – Prop. 65 – Non-carcinogenic

Massachusetts – Right To Know List

Pennsylvania – Right To Know List

New Jersey – Right To Know List

SECTION 16: OTHER INFORMATION

Date of Preparation: 05/30/15

Prepared in accordance with OSHA HCS 29 CFR 1910.1200.

Greenwich Metals, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. GREENWICH METALS, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, GREENWICH METALS, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.