



Material Safety Data Sheet (MSDS)

Manganese Metal (99.8% High-Purity Grade)

Section 1: Product and Company Identification

Product Name: Manganese Metal

Synonyms: Electrolytic Manganese, Refined Manganese

Company Identification:

Basekim Kimyasal Ürünler LTD

Turan Gunes Blv. Ilkbahar Mah. Sinpas Altinoran Tower 2, Floor 1, Unit 146

Ankara, Turkey

Transportation Emergency Response: Logistics: 88552948

Health Emergency Contact:

Basekim Emergency Information Center (Ankara):

+90 312 514 7055 or +90 312 514 7081

International collect calls accepted

Product Information / MSDS Requests:

+90 312 514 7055 / +90 312 514 7081

Section 2: Composition/Information on Ingredients

- **Substance:** Manganese (Mn)
- **CAS Number:** 7439-96-5
- **Purity:** 99.8%
- **Typical Impurities:**



- $\text{Si} \leq 0.005\%$
- $\text{C} \leq 0.02\%$
- $\text{S} \leq 0.03\%$
- $\text{P} \leq 0.005\%$
- $\text{Fe} \leq 0.01\%$
- $\text{Se} \leq 0.06\%$

Section 3: Hazards Identification

Classification (GHS):

- Acute Toxicity (Inhalation, Category 4)
- Specific Target Organ Toxicity – Repeated Exposure (Category 2, Nervous System)

Hazard Statements:

- H332: Harmful if inhaled.
- H373: May cause damage to the nervous system through prolonged or repeated exposure.

Signal Word: Warning

Precautionary Statements:

- Avoid breathing dust/fumes.
- Use respiratory protection in dusty environments.
- Wash thoroughly after handling.
- Avoid release into the environment.

Section 4: First Aid Measures



- **Inhalation:** Move to fresh air. If breathing difficulty occurs, seek immediate medical attention.
- **Skin Contact:** Wash thoroughly with soap and water. Remove contaminated clothing.
- **Eye Contact:** Rinse cautiously with water for 15 minutes. Seek medical advice if irritation persists.
- **Ingestion:** Rinse mouth. Do not induce vomiting. Seek medical attention.

Section 5: Firefighting Measures

- **Suitable Extinguishing Media:** Dry chemical, dry sand, CO₂.
- **Unsuitable Media:** Do not use water on burning metal.
- **Specific Hazards:** Manganese dust may be flammable; fine powder may form explosive mixtures with air.
- **Protective Equipment:** Firefighters should wear SCBA and protective clothing.

Section 6: Accidental Release Measures

- **Personal Precautions:** Avoid dust formation. Wear appropriate PPE.
- **Environmental Precautions:** Prevent release into soil and water systems.
- **Cleanup Procedures:** Collect mechanically into sealed, labeled containers for proper disposal. Avoid sweeping dry dust; use vacuum with HEPA filter.

Section 7: Handling and Storage

- **Handling:** Minimize dust generation. Avoid inhalation and direct contact. Handle under adequate ventilation.
- **Storage:** Store in a cool, dry, well-ventilated place. Keep containers tightly closed. Protect from moisture.



Section 8: Exposure Controls/Personal Protection

Occupational Exposure Limits:

- OSHA PEL: 5 mg/m³ (respirable fraction, ceiling)
- ACGIH TLV: 0.02 mg/m³ (respirable fraction, TWA)

Engineering Controls:

- Provide local exhaust ventilation at points of dust generation.

PPE:

- **Respiratory:** Approved respirator when airborne concentrations exceed limits.
- **Eye/Face:** Safety goggles or face shield.
- **Skin:** Chemical-resistant gloves and protective clothing.
- **Hygiene:** Wash hands before breaks and after handling.

Section 9: Physical and Chemical Properties

- **Appearance:** Grey-silver metallic solid
- **Molecular Weight:** 54.94 g/mol
- **Melting Point:** 1245 °C
- **Boiling Point:** 2061 °C
- **Density:** 7.2 g/cm³
- **Solubility:** Insoluble in water
- **Odor:** Odorless



Section 10: Stability and Reactivity

- **Stability:** Stable under recommended storage conditions.
- **Reactivity:** Reacts with strong oxidizers and acids.
- **Hazardous Decomposition Products:** Manganese oxides may form at elevated temperatures.

Section 11: Toxicological Information

- **Acute Toxicity:** Harmful if inhaled.
- **Skin/Eye Contact:** May cause irritation.
- **Chronic Effects:** Prolonged exposure can lead to manganese poisoning (manganism), characterized by neurological symptoms (tremors, difficulty walking, mood changes).
- **Carcinogenicity:** Not classified as carcinogenic by IARC.

Section 12: Ecological Information

- **Ecotoxicity:** Toxic to aquatic organisms in high concentrations.
- **Persistence:** Not biodegradable.
- **Bioaccumulation:** Potential for accumulation in aquatic organisms.
- **Environmental Note:** Prevent release into waterways.

Section 13: Disposal Considerations

- Dispose of waste in accordance with local, regional, and national regulations.
- Recycling of manganese scrap is recommended where possible.



Section 14: Transport Information

- **UN Number:** Not regulated as hazardous for transport.
- **Proper Shipping Name:** Manganese Metal
- **Hazard Class:** Not classified as dangerous goods.
- **Packing Group:** Not applicable.

Section 15: Regulatory Information

- Listed under EU REACH Regulation and OSHA standards.
- Subject to workplace exposure monitoring.

Section 16: Other Information

Disclaimer:

This MSDS is prepared according to international standards and is based on the latest available information. It is provided in good faith and is believed to be accurate at the date of issue. No warranty, express or implied, is given.

Users are responsible for ensuring safe handling and compliance with all applicable regulations.