

Material Safety Data Sheet Manganese Greensand

Section 1: Chemical Product and Company Identification

Product Name : Manganese Greensand
Chemical Formula :
Company Identification : Tradeasia International Pte Ltd
Email Address : contact@chemtradeasia.com

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS#	% by Weight
Manganese Dioxide	1313-13-9	3.2 – 4.8
Quartz	14808-60-7	96 – 98

Toxicological Data on Ingredients: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects: Not available.

Potential Chronic Health Effects: Not available.

Section 4: First Aid Measures

Eye Contact:

Do not rub eyes. Check for and remove any contact lenses. Flush immediately with water for at least 30 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.

Skin Contact:

Remove contaminated clothing. Rinse skin with soap and water. Seek medical attention if irritation occurs or persists.

Serious Skin Contact: Not available.

Inhalation:

If exposed to excess levels of dusts or fumes, remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.

Serious Inhalation: Not available.

Ingestion:

If ingested in large quantities, give 1-2 glasses of water or milk. DO NOT give anything by mouth to an unconscious person. Do not induce vomiting unless advised to by a qualified medical personnel. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Not available.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion:

This material is a strong oxidizing agent, which liberates oxygen during thermal decomposition. It may increase the burning rate of combustibles with a flare-burning effect. It may cause reignition after a fire is extinguished.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances: Not available.

Fire Fighting Media and Instructions:

Use dry chemical or CO₂ to extinguish fires involving this material. Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.

Large Spill:

Prevent material from entering sewers, streams and waterbodies. If possible, collect and reuse material. Vacuum or sweep up dry material and place in a container for reuse. Avoid creating excessive airborne dust. Cleanup personnel need to wear approved respiratory protection (air-purifying or air-supply), gloves, long, sleeved clothing and goggles to prevent irritation from contact and inhalation.

Section 7: Handling and Storage

Precautions:

Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.

Storage:

Store in a cool, dry, well-ventilated place. Keep container tightly closed when not in use. Product or component is a powerful oxidizer, hence it should not be stored near organic matter or other easily oxidizable substances such as; Sulphur, sulfides, phosphides, hypophosphides or incompatible materials such as hydrogen peroxide and sodium peroxide.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.

Personal Protection:

Eyes/Face

Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

Hand Protection

Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Skin and Body

Protection Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.

Respiratory Protection

Use NIOSH/MSHA approved respiratory protection (air purifying or air supplying) when concentrations are above exposure limit value. A respiratory protection program that meets OSHA 29 CFR part 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant the use of a respirator.

Exposure Limits:

CEIL: 5 (mg/m³) from OSHA (PEL) [United States] Inhalation TWA: 0.2 (mg/m³) from ACGIH (TLV) [United States] Inhalation Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance	: Solid.
Odor	: Odorless.
Taste	: Not available.
Molecular Weight	: Not available.
Color	: Uniform brownish-black granular material
pH (1% soln/water)	: 6.4-7 (10% aqueous slurry).
Boiling Point	: Not available.
Melting Point	: ~1538°C
Critical Temperature	: Not available.
Specific Gravity	: Not available.
Vapor Pressure	: Not applicable.
Vapor Density	: Not available.
Volatility	: Not available.
Odor Threshold	: Not available.
Water/Oil Dist. Coeff.	: Not available.
Ionicity (in Water)	: Not available.
Dispersion Properties	: Not available.
Solubility	: Slightly soluble.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature:

Alpha-quartz is stable below 575°C where it transforms to beta-quartz, which is stable between 575°C and 870°C, quartz transforms to tridymite.

Conditions of Instability:

Incompatibles, heat and flammable materials.

Incompatibility with various substances:

Should not be heated or rubbed with organic matter or other easily oxidizable substances like sulphur, sulphides, phosphides, hypophosphides. Incompatible with hydrogen peroxide and sodium peroxide.

Corrosivity: Not available.

Special Remarks on Reactivity:

Reacts with concentrated hydrochloric acid to produce poisonous chlorine gas.

Special Remarks on Corrosivity: Not available.

Polymerization: Not available.

Section 11: Toxicological Information

Routes of Entry:

Inhalation. Ingestion.

Toxicity to Animals:

Excessive, short-term exposure to airborne mineral dusts and particulate may cause upper respiratory and eye irritation. Exposure via inhalation to high concentration of dusts containing manganese compounds for as little as three months have affected the central nervous system.

Chronic Effects on Humans:

Excessive, long-term, inhalation of airborne mineral dusts and particulate may contribute to the development of bronchitis, reduced breathing capacity, and may lead to the increased susceptibility to lung disease. Manganese poisoning: The excessive, chronic inhalation of manganese compounds usually begins with complaints of languor and sleepiness. This is followed by weakness in the legs and the development of stolid, mask-like faces. The patient speaks with a slow monotonous voice. Then muscular twitching appears, varying from a fine tremor of the hands to coarse, rhythmical movements of the arms, legs, and trunk. There is a slight increase in tendon reflexes, ankle and patellar clonus, and a typical Parkinsonian slapping gate.

Other Toxic Effects on Humans:

Skin Corrosion/Irritation

Prolonged or repeated exposure may cause slight to moderate irritation.

Ingestion

Ingestion is an unlikely route of exposure; no hazard in normal industrial use. Small amounts (<tablespoonful) swallowed during normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Large ingested quantities may cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting, abdominal pain, and diarrhea.

Inhalation

Overexposure by inhalation of airborne particulate, dust or fumes may be irritating to the nose, throat, and respiratory tract. Inhalation of excessive levels of dust or fumes may be harmful.

Serious Eye Damage/Irritation

Contact with particulate may cause slight to moderate eye irritation. Abrasive action of dust particulate can damage eyes.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity:

Quartz:

LC50(Lepomis macrochirus, 96hr): 486mg/L, LC50(Daphnia magna, 24hr): 625mg/L

BOD5 and COD: Not available.

Products of Biodegradation: Not available.

Toxicity of the Products of Biodegradation: Not available.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Contaminated Packaging

Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable

Special Provisions for Transport:

Secure containers (full and/or empty) with suitable hold down devices during shipment and ensure all caps, valves, or closures are secured in the closed position.

Section 15: Other Regulatory Information

Federal and State Regulations: Not available.

Other Regulations: Not available.

Other Classifications:

WHMIS (Canada): Not available.

DSCL (EEC):

HMIS (U.S.A.):

Health Hazard: Not available

Fire Hazard: Not available

Reactivity: Not available

Personal Protection: Not available

National Fire Protection Association (U.S.A.):

Health: Not available

Flammability: Not available

Reactivity: Not available

Specific hazard:

Protective Equipment: Not available.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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