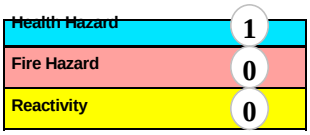
GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
		 See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Manganese**
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248
Commercial Name(s)	Not available.
Synonym	Not available.
Chemical Name	Manganese
Chemical Family	Not available.
Chemical Formula	Mn
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248

Catalog Number(s).	M1092
CAS#	7439-96-5
RTECS	OO9275000
TSCA	TSCA 8(b) inventory: Manganese
CI#	Not available.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	**CAS #**	**TWA (mg/m^3)**	**STEL (mg/m^3)**	**CEIL (mg/m^3)**	**% by Weight**
1) Manganese	7439-96-5	1	3		100

Toxicological Data on Ingredients

Manganese:
ORAL (LD50): Acute: 9000 mg/kg [Rat].

Section 3. Hazards Identification

Potential Acute Health Effects

Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance may be toxic to blood, kidneys, lungs, upper respiratory tract, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

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Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin Contact	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.
Serious Skin Contact	Not available.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Not available.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	of moisture
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Moderate fire potential, in the form of dust or powder, when exposed to flame. When manganese is heated in the vapor of phosphorus at a very dull red heat, union occurs with incandescence. Concentrated nitric acid reacts with powdered manganese with incandescence and explosion. Powdered manganese ignites in chlorine. Reacts with water to release flammable hydrogen gas.
Special Remarks on Explosion Hazards	Moderate explosion potential, in the form of dust or powder, when exposed to flame.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

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Section 7. Handling and Storage

Precautions	Do not ingest. Do not breathe dust. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, reducing agents, acids, alkalis.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 0.2 (mg/m^3) from ACGIH (TLV) [United States] Inhalation Total. TWA: 0.02 (mg/m^3) from ACGIH (TLV) [United States] Inhalation Respirable. TWA: 1 STEL: 3 (mg/m^3) from NIOSH [United States] CEIL: 5 (mg/m^3) from OSHA (PEL) [United States] TWA: 0.2 STEL: 3 CEIL: 5 (mg/m^3) [Canada] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.
Molecular Weight	54.94 g/mole
pH (1% soln/water)	Not applicable.

Odor	Odorless.
Taste	Not available.
Color	Grayish white.

Boiling Point	2095°C (3803°F)
Melting Point	1244°C (2271.2°F)
Critical Temperature	Not available.
Specific Gravity	7.44 (Water = 1)
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	Insoluble in cold water, hot water.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials
Incompatibility with various substances	Reactive with oxidizing agents, reducing agents, acids, alkalis. Slightly reactive to reactive with moisture.
Corrosivity	Non-corrosive in presence of glass.

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Special Remarks on Reactivity	Superficially oxidized on exposure to air. Reacts with aqueous solutions of sodium or potassium bicarbonate. Reacts with dilute mineral acids with evolution of hydrogen and formation of divalent manganous salts. Reacts with fluorine and chlorine to produce di or tri fluoride, and di and tri chloride, respectively. In the form of powder, it reduces most metallic oxides on heating. On heating, it reacts directly with carbon, phosphorus, antimony, or arsenic. Also incompatible with hydroxides, cyanides, carbonates. Reacts with water to release flammable hydrogen gas.
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 9000 mg/kg [Rat].
Chronic Effects on Humans	May cause damage to the following organs: blood, kidneys, lungs, upper respiratory tract, central nervous system (CNS).
Other Toxic Effects on Humans	Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Manganese can cross the placenta. May cause cancer (tumorigenic) based on animal data.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May cause skin irritaiton Eyes: Dust may cause mechanical irritation. Inhalation: Dust may cause respiratory tract irritation. May cause "Metal Fume Fever" which may include flu-like symptoms (fever, chills, upset stomach, vomiting, weakness, headache, body aches, muscle pains, dry mouth and throat, coughing, tightness of the chest). May affect behavior/Central Nervous system (change in motor activity, torpor, nervousness, tremor, yawning, mood swings, irritability, restlessness, fatigue, headache, apathy, languor, insomnia than somnolence, hallucinations, delusions, uncontrollable laughter followed by crying, compulsions, aggressivness, weakness in legs, memory loss, decreased libido, impotence, salivation, hearing loss, slow gait,), and respiration (dyspnea, shallow respiration, cyanosis, alveolar inflammation). Ingestion: Repeated or prolonged exposure from ingestion may affect brain (degenerative changes), blood and metabolism. Ingestion: May cause digestive tract irritation. There is a low gastrointesitnal absorption of manganese. Chronic Potential Health Effects: Inhalation: Repeated or prolonged exposure from inhalation may affect brain (degeneratiave changes), behavior/Central Nervous system with symptoms to acute exposure. May also affect liver (chronic liver disease, jaundice) Ingestion: Repeated or prolonged exposure from ingestion may affect brain, blood and metabolism

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

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Section 13. Disposal Considerations

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

Section 14. Transport Information

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

Identification Not applicable.

Special Provisions for Transport Not applicable.

DOT (Pictograms)

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations

Pennsylvania RTK: Manganese
Minnesota: Manganese
Massachusetts RTK: Manganese
New Jersey: Manganese
New Jersey spill list: Manganese
Louisiana spill reporting: Manganese
California Director's List of Hazardous Substances: Manganese
TSCA 8(b) inventory: Manganese
SARA 313 toxic chemical notification and release reporting: Manganese

California Proposition 65 Warnings

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

Other Regulations

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 231-105-1).
Canada: Listed on Canadian Domestic Substance List (DSL).
China: Listed on National Inventory.
Japan: Not listed on National Inventory (ENCS).
Korea: Listed on National Inventory (KECI).
Philippines: Listed on National Inventory (PICCS).
Australia: Listed on AICS.

Other Classifications

WHMIS (Canada) CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC) Not available Not applicable.

HMIS (U.S.A.)

Health Hazard	1
Fire Hazard	0
Reactivity	0
Personal Protection	E

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

WHMIS (Canada) (Pictograms)

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DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent.

Safety glasses.

Section 16. Other Information

MSDS Code	**M3320**
References	Not available.
Other Special Considerations	Not available.

Validated by Sonia Owen on 8/7/2012.	**Verified by Sonia Owen.** **Printed 8/7/2012.**

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.