

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: (5N) 99.999% Manganese Carbide Mn₂₃C₆

Product Code: MN-C-05

CAS Number: 12266-65-8

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
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Los Angeles, CA 90024
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+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) Flammable solids Category 2 Serious Eye Damage/Eye Irritation Category 2 Label Elements Signal Word: Warning Hazard Statements: Flammable solid Causes serious eye irritation



Precautionary Statements Prevention: Wash face, hands and any exposed skin thoroughly after handling Keep away from heat/sparks/open flames/hot surfaces. - No smoking Ground/bond container and receiving equipment Use explosion-proof electrical/ventilating/lighting/equipment Wear protective gloves/protective clothing/eye protection/face protection Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention Fire: In case of fire: Use CO₂, dry chemical, or foam for extinction Hazards not otherwise classified (HNOC) None identified

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component: Manganese 7439-96-5 Carbon 7440-44-0

SECTION 4. FIRST AID MEASURES

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. Skin Contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention. Inhalation: Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Obtain medical attention. Ingestion: Clean mouth with water. Get medical attention. Most important symptoms and effects: No information available. Notes to Physician: Treat symptomatically

SECTION 5. FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical. Unsuitable Extinguishing: Media No information available Flash Point No information available Method - No information available Autoignition Temperature Explosion Limits: Upper No data available Lower No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No Specific Hazards Arising from the Chemical: Combustible material Hazardous Combustion Products: None known Protective Equipment and Precautions for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. NFPA Health 2 Flammability 2 Instability 0 Physical hazards N/A

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment. Environmental Precautions: See Section 12 for additional ecological information. Methods for Containment and Clean Up: Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Sweep up or vacuum up spillage and collect in suitable container for disposal.

SECTION 7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Do not breathe dust. Use explosion-proof equipment. Use only non-sparking tools. Storage: Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat and sources of ignition. Keep under nitrogen.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines ACGIH TLV: TWA: 0.02 mg/m³ TWA: 0.1 mg/m³ OSHA PEL: (Vacated) TWA: 1 mg/m³ Ceiling: 5 mg/m³ (Vacated) STEL: 3 mg/m³ (Vacated) Ceiling: 5 mg/m³ NIOSH IDLH: IDLH: 500 mg/m³ TWA: 1 mg/m³ STEL: 3 mg/m³ Mexico OEL (TWA): TWA: 0.2 mg/m³ TWA: 1 mg/m³ STEL: 3 mg/m³ Engineering Measures: Ensure adequate ventilation, especially in confined areas. Personal Protective Equipment Eye/face Protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure. Respiratory Protection: No protective equipment is needed under normal use conditions. Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State No information available Appearance No information available Odor No information available Odor Threshold No information available pH No information available Melting Point/Range

No information available Boiling Point/Range No information available Flash Point No information available Evaporation Rate Not applicable Flammability (solid,gas) No information available Flammability or explosive limits Upper No data available Lower No data available Vapor Pressure No information available Vapor Density Not applicable Specific Gravity No information available Solubility No information available Partition coefficient; n-octanol/water No data available Autoignition Temperature Decomposition Temperature No information available Viscosity Not applicable Molecular Formula Mn3C Molecular Weight No information available

SECTION 10. STABILITY AND REACTIVITY

Reactive Hazard: None known, based on information available Stability: Moisture sensitive. Conditions to Avoid: Incompatible products. Exposure to moisture. Incompatible Materials: Acids, Bases, Halogens Hazardous Decomposition Products: None under normal use conditions Hazardous Polymerization: Hazardous polymerization does not occur. Hazardous Reactions: None under normal processing.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity Product Information: Component Information: Component LD50 Oral LD50 Dermal LC50 Inhalation Manganese LD50 = 9 g/kg (Rat) Not listed Not listed Toxicologically Synergistic Products No information available Delayed and immediate effects as well as chronic effects from short and long-term exposure Irritation No information available Sensitization No information available Carcinogenicity IARC: Not listed NTP: Not listed ACGIH: Not listed OSHA: Not listed Mexico: Not listed Mutagenic Effects No information available Reproductive Effects No information available. Developmental Effects No information available. Teratogenicity No information available. STOT - single exposure None known STOT - repeated exposure None known Aspiration hazard No information available Symptoms / effects,both acute and delayed No information available Endocrine Disruptor Information No information available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity Do not empty into drains. Persistence and Degradability: Insoluble in water Bioaccumulation/ Accumulation: No information available. Mobility: Is not likely mobile in the environment due its low water solubility.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14. TRANSPORT INFORMATION

DOT UN-No UN3089 Hazard Class 4.1 Packing Group III TDG UN-No UN3089 Hazard Class 4.1 Packing Group III IATA UN-No 3089 Proper Shipping Name METAL POWDER, FLAMMABLE, N.O.S. Hazard Class 4.1 Packing Group III IMDG/IMO UN-No 3089 Proper Shipping Name METAL POWDER, FLAMMABLE, N.O.S. Hazard Class 4.1 Packing Group III 1

SECTION 15. REGULATORY INFORMATION

TSCA: X DSL: X NDSL: - EINECS: 231-105-1 ELINCS: - NLP PICCS: X ENCS: - AICS: X IECSC: X KECL: X U.S. Federal Regulations TSCA 12(b) Not applicable CWA (Clean Water Act) Not applicable Clean Air Act HAPS Data: X Class 1 Ozone Depletors Class 2 Ozone Depletors: - OSHA: Not applicable CERCLA Not applicable California Proposition 65 This product does not contain any Proposition 65 chemicals U.S. State Right-to-Know Regulations Component; Manganese Massachusetts: X New Jersey: X Pennsylvania: X Illinois: X Rhode Island: X U.S. Department of Transportation Reportable Quantity (RQ): N DOT Marine Pollutant N DOT Severe Marine Pollutant N U.S. Department of Homeland Security This product does not contain any DHS chemicals.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.