MATERIAL SAFETY DATA SHEET
OSHA HAZARD COMMUNICATION RULE

DATE OF LAST REVISION: 05-15-96

CHEMICAL IDENTITY

LABEL IDENTITY
CHEMICAL NAME/SYNONYMS MANGANESE
FORMULA Mn
CHEMICAL FAMILY METAL
CAS REGISTRY NUMBER 7439-96-5, LISTED IN THE TSCA INVENTORY
HAZARDOUS INGREDIENTS MANGANESE

%: 100

TLV: 5mg/m3
OSHA/PEL: 5mg/m3

PHYSICAL AND CHEMICAL PROPERTIES

COLOR, FORM AND ODOR Gray metallic powder, granules or pressed parts, odorless
BOILING POINT 1962°C
DENSITY (gm/cc) 7.20 @ 20°C
VAPOUR PRESSURE @ 20° 1mm Hg @ 1292°C
% VOLATILE BY VOLUME (%) NA
REACTION WITH WATER Decomposes Water
EVAPORATION RATE (H2O=1) NA
SOLUBILITY IN WATER Decomposes
MELTING POINT 1244°C
OTHER Moderately dangerous, will react with water to form Hydrogen.

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT Nonr
AUTOIGNITION TEMPERATURE (°C) NA
FLAMMABILITY Moderately flammable as powder
EXTINGUISHING MEDIA Class D extinguisher, G-1 powder, MEL-T-X, TEC.
SPECIAL FIRE FIGHTING PROCEDURES Wear NIOSH/MSHA approved self-contained breathing apparatus & full protective clothing
Manganese will burn when heated in air.
UNUSUAL FIRE & EXPLOSION HAZARDS Manganese metal/powder can present a dust explosion hazard under favoring conditions of particle size and airborne dispersion.
MANGANESE
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HEALTH HAZARD INFORMATION

TOXICITY DATA
No data

HMIS RATING:
- HEALTH: 1
- FLAMMABILITY: 1
- REACTIVITY: 1
- PERSONAL PROTECTION: X

ROUTES OF ENTRY
- INHALATION: Yes
- SKIN: Yes
- INGESTION: Yes

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:
- Eyes, skin and resp

EMERGENCY FIRST AID PROCEDURES:
- INGESTION: induce vomiting, seek medical attention
- INHALATION: remove to fresh air, administer oxygen, seek medical attention
- SKIN CONTACT: brush material off skin and wash affected area with soap and water
- EYE CONTACT: flush eyes for at least 15 minutes, seek medical attention

REACTIVITY DATA

STABILITY
Stable

CONDITIONS CONTRIBUTING TO UNSTABILITY
Reacts slowly with water, rapidly with steam

INCOMPATIBILITY (MATERIALS TO AVOID)
Strong acids, water and steam

HAZARDOUS DECOMPOSITION PRODUCTS
Manganese oxides when heated at a high temperature, reaction with water and acids release hydrogen

HAZARDOUS POLYMERIZATION
Will Not Occur

CONDITIONS TO AVOID
Contact with acids dissolves Mn
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Wearing full protective clothing isolate the area and insure proper ventilation. Vacuum up spill and place in a container for proper disposal.

WASTE DISPOSAL METHOD:
Consult federal, state and local regulations for proper disposal.

SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION
NIOSH/MSHA respirator

LOCAL EXHAUST
Meet TLV and PEL requirements

MECHANICAL (general)
Meet TLV and PEL requirements

SPECIAL
NA

PROTECTIVE GLOVES
Recommended

EYE PROTECTION
Safety glasses with side shields

OTHER PROTECTIVE EQUIPMENT
Maintain sink, safety shower and eyewash fountain in work area, full protective clothing at all times.

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:
Store in tightly closed container, store in cool, dry place wash hands and face thoroughly after handling and before meals.

TRANSPORTATION REQUIREMENTS
DOT CLASS: Not Classified

UN NUMBER: N. C.

IMCO CLASS: N. C.

OTHER: None

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NA= NOT APPLICABLE
ND= NO DATA FOUND