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AMERICAN MINERALS  
INDUSTRIAL HYGIENE, TOXICOLOGY, AND MATERIAL  
SAFETY DATA SHEET

American Minerals

Trade Name and Synonyms AMAPA MANGANESE ORE	
Manufacturer's Name American Minerals	Emergency Telephone No. 1-302-652-3301
Address 301 Pigeon Point Road New Castle, DE. 19720	
Chemical Name and/or Family or Description Metallic Oxide	
THIS PRODUCT IS CLASSIFIED AS: _____ NOT HAZARDOUS: ____X____ HAZARDOUS; EXPLANATION <u>Pulmonary Disorders</u>	
<b>WARNING STATEMENT:</b>  HARMFUL IF DUSTS OR FUMES ARE INHALED. MAY CAUSE EYE IRRITATION.	
<b>OCCUPATIONAL CONTROL PROCEDURES</b>	
Protective Equipment (Type) Eyes: Personal protective equipment for eyes should be worn when there is a reasonable probability of exposure.  Skin: Wear if prolonged or repeated contact is experienced.	
Inhalation:	When engineering or administrative controls are not feasible to control over-exposure or while they are being instituted, appropriate NIOSH-approved respirators should be used and selected according to 29 CFR 1910/134.
Ventilation:	Local exhaust ventilation should be provided to keep worker exposure to fumes within allowable limits.
Permissible Concentrations: Air: See "Composition."	
<b>EMERGENCY AND FIRST AID PROCEDURES</b>	
First Aid	Eyes: Flush the eyes with large amounts of water, occasionally lifting the upper and lower eyelids. Seek medical attention.  Skin: Wash the contaminated area with soap and water.
Ingestion:	If the victim is conscious, give the person water and induce vomiting. Do not make an unconscious person vomit. Seek medical attention immediately.
Inhalation:	Remove to fresh air. Rinse mouth and nasal passages with water.
Other Instructions:	



## PHYSIOLOGICAL EFFECTS

Code  
No.

### Effects of Exposure

**Acute:** Excessive inhalation of fumes from many metals can produce metal fume fever.

**Eyes:** Symptoms consist of chills and fever and come on a few hours after large exposures.

**Skin:**

**Respiratory System:**

**Chronic:** Excessive and prolonged inhalation of manganese (generally over 2 years exposure) can cause damage to the central nervous system. Specifically, the pathology resembles Parkinson's Disease. Also, workers exposed to high concentrations of manganese dust show an unusually high incidence of respiratory disease. Chronic exposure to iron, alumina and silica may also cause pulmonary disorders.

**Other:**

**Sensitization Properties:**

Skin: Yes \_\_\_ No  Unknown \_\_\_

Respiratory: Yes \_\_\_ No  Unknown \_\_\_

Median Lethal Dose (LD<sub>50</sub> LC<sub>50</sub>) (Species) ND

Oral \_\_\_\_\_

Inhalation \_\_\_\_\_

Dermal \_\_\_\_\_

Other \_\_\_\_\_

Irritation Index, Estimation of Irritation (Species) ND

Skin \_\_\_\_\_

Eyes \_\_\_\_\_

Symptoms of Exposure \_\_\_\_\_

## FIRE PROTECTION INFORMATION

Ignition Temp. F. NA \_\_\_\_\_ Flash Point F. (Method) NA \_\_\_\_\_

Flammable Limits% Lower NA \_\_\_\_\_ Upper NA \_\_\_\_\_

Products Evolved When Subjected to Heat or Combustion:

Hydrogen

Recommended Fire Extinguishing Agents And Special Procedures:

The product does not present a fire hazard. However, if a fire would result, smother with dry chemical, salt or sand.

Unusual or Explosive Hazards:

Moderate explosion hazard when in the form of dust and exposed to a flame.



## ENVIRONMENTAL PROTECTION

Code  
No.

## Waste Disposal Method:

Dispose of in accordance with local state and federal regulations.

## Procedures in Case

Clean up using methods which avoid dust generation and the use of water, such as a vacuum. If airborne dust is generated during the cleanup, use an appropriate NIOSH-approved respirator.

## Remarks:

## PRECAUTIONARY LABEL

SEE WARNING STATEMENT.

## Requirements for Transportation, Handling and Storage:

NONE

## DOT Proper Shipping Name:

DOT Hazard Class (if applicable):

## CHEMICAL AND PHYSICAL PROPERTIES

Boiling Point (°F) 1900°

Vapor Pressure 1mm @1292° (mmHg)

Specific Gravity NA (H<sub>2</sub>O=1)

Vapor Density NA (Air=1)

Appearance and Odor Brownish / Powder

pH of undiluted product NA

Solubility NA

Percent Volatile by Volume NA

Evaporation NA ( )=1

Viscosity NA

Other \_\_\_\_\_

Hazardous Polymerizations \_\_\_\_\_ Occur  Do not occur

The Material Reacts Violently With: (if others is checked below, see additional comments on page 4 for further details)

Air \_\_\_\_\_ Water \_\_\_\_\_ Heat  Strong Oxidizers \_\_\_\_\_ Others  None of These



COMPOSITION			Code No. e
Components Presenting a Significant Hazard	OSHA PEL	ACGIH TLV	%
Manganese	5 mg/M3(Mn ceiling)	5 mg/M3(Mn ceiling)	48.77
Iron	10 mg/M2(oxide fume)	5 mg/M3(oxide fume)	6.63
Silica	80 mg/M3 %SiO <sub>2</sub>	10 mg/M3	2.31
Alumina	15 mg/M3(total dust) 5 mg/M3 (respirable dust)	10 mg/M3(total dust) 5 mg/M3 (respirable dust)	4.63
Other Components			%
None			
Phosphorus	0.1 mg/M3(yellow)	0.1 mg/M3(yellow)	0.081

**ADDITIONAL COMMENTS**

Manganese reacts violently with aluminum in air, chlorine, fluorine, hydrogen peroxide, nitric acid, phosphorus, sulfur dioxide and NO<sub>2</sub>.

CAS# 7439-96-5

To determine applicability or effect of any law or regulation with respect to this product, user should consult his legal advisor or the appropriate government agency. American Minerals does not undertake to furnish advice on such matters.

By James Murphy Title Safety Director  
 Date 12/13/85  New  Revised, Supersedes