

Material Safety Data Sheet

AMERICAN MINERALS
 901 EAST EIGHTH AVENUE, P.O. BOX 1569
 KING OF PRUSSIA, PA 19406
 Phone: Health & Safety Info 215/337-1100

PRODUCT: 60% FEED GRADE MANGANOUS OXIDE

MSDS: AM60FGMN
 Date: 12/01/90
 Revision: 12/97

National Paint
 and Coatings
 Association

 Hazardous Material
 Identification
 System

HEALTH HAZARD	2 - Moderate
FLAMMABILITY HAZARD	0 - Minimal
REACTIVITY HAZARD	0 - Minimal
PERSONAL PROTECTION	B - Glasses & Gloves

SECTION I. MATERIAL IDENTIFICATION

Product Name: 60% Feed Grade Manganous oxide

Description: 60% Feed Grade Manganous oxide is an animal feed concentrate, formulated to supply manganese and other essential trace elements to animal feeds in which it is incorporated.

CAS#: Mixture

Manufacturer: American Minerals

Phone: 215/337-1100

SECTION II. INGREDIENTS AND HAZARDS

Ingredient Name:	CAS Number:	Percent:	Exposure Limits:
Manganous Oxide (MnO)	1344-43-0	77-80	For Manganese Dust, as Mn, and compounds CAS#7439-96-5 ACGIH TWA is 5mg/m ³ ; OSHA Ceiling Limit - 5mg/m ³ . As /Mn/ Fume OSHA PEL;TWA is 1mg/m ³ ; STEL is 3mg/m ³ . ACGIH same limits.
Nonhazardous Ingredients:	-----	20-23	Nuisance Particulates, OSHA PEL TWA - 10mg/m ³ ; Respirable dust 5mg/m ³ . ACGIH TLV:TWA values are the same for total and respirable dust as OSHA PELs.
Typical Chemical Analysis, Wt.%			
SiO ₂	3-8		
Fe ₂ O ₃	5-10		
Al ₂ O ₃	1-2		
BaO	0-2		
Total Mn as MnO	77-80		
Free carbon	1-2		

The oxides shown in the "Typical Chemical Analysis" do not exist as free, uncombined oxides, but exist in complex mineralogical combinations.

The exposure limits listed for each of the ingredients is for exposure to dust that may be generated during product transfer and handling.

This product does not contain any substances listed a carcinogens, or suspected carcinogens by IARC, NTP, and OSHA.

Please Note! Feed Grade Manganese 60 is formulated for use as a mineral additive in fertilizer formulations. Health effects resulting from the product being used for any other purpose or process is not addressed in this material safety data sheet.

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HEALTH HAZARD INFORMATION continued from page 2

First aid

Eye contact: Flush eyes, including under the eyelids, with large amounts of water. If irritation persists, seek medical attention.

Skin contact: Wash affected area with mild soap and water to remove any manganous oxide adhering to the skin.

Inhalation: Remove exposed person to fresh air. Support breathing as needed. Have qualified medical person administer oxygen if required.

Ingestion: Unlikely to be toxic because it is poorly absorbed.

SECTION VII. SPILL, LEAK AND DISPOSAL PROCEDURES

Spill / Leak procedures: Prevent the spill from entering water and waste water systems. Cleanup personnel need to wear approved respiratory protection, gloves, long sleeved clothing and goggles to prevent irritation from contact and inhalation. Reuse all spilled material whenever possible.

Waste management / Disposal: Manganous oxide is not a listed hazardous waste. It is not biodegradable, and does not exhibit any characteristics of a hazardous waste. However, the product may contain barium at 0-2% concentration which may cause the waste to be a hazardous waste. The material must first be tested by the EPA's SW-846 TCLP Methodology for the hazardous waste Characteristic of Toxicity (barium) to determine method of disposal. Waste of this type that exhibit the characteristic of Toxicity (Barium) is an unlisted hazardous waste with the designation as RCRA Hazardous Waste No. D005. Follow all local, state and federal regulations for proper disposal.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Personal protective equipment: The use of safety glasses, gloves, and long sleeve clothing is recommended. The use of OSHA approved respirator in accordance with 29 CFR 1910.134 must be worn for all exposure to manganous oxide dust and fume above the PEL/TLV

Workplace Considerations: Ventilation: If airborne contaminants are generated when the material is handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below allowable exposure limits.

SECTION IX. REGULATORY INFORMATION

SARA TITLE III SECTION 313. Manganous oxide is not specifically listed on any Federal regulatory lists, however Manganese compounds, as /Mn/ CAS# 7439-96-5 is listed, and manganous oxide falls into this classification. Manganese compounds, as /Mn/ CAS# 7439-96-5 are regulated under requirements of SARA TITLE III Section 313. The product will contain 60% manganese. Manganous oxide is not listed under SARA TITLE III Sections 302 and 304.

The product may contain 0-2% Barium Oxide CAS# 1304-28-5 which is an integral mineralogical component of the ore. Barium Compounds are reportable under Sara Section 313.

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REGULATORY INFORMATION continued from page 3

TSCA INVENTORY:

All substances contained in the product are listed in the Chemical Substance Inventory of the Toxic Substances Control Act.

DOT Class: Not Regulated

SECTION X. REFERENCES

Sax, N. Irving: Dangerous Properties of Industrial Materials, Seventh Edition, Van Nostrand Reinhold Co., Inc., 1989.
Kirk, R. and Othmer, D., Encyclopedia of Chemical Technology, Third Edition, Wiley-Interscience, New York, NY 1980.
Clansky, K.B., Suspect Chemicals Sourcebook, 1992-2 Edition, Roytech Publications, Bethesda, Maryland.
Sax, N. Irking and Lewis, R.J. Hawley's Condensed Chemical Dictionary, Eleventh Ed., Van Nostrand Reinhold Co., Inc., NY
Material Safety Data Sheets, Genium Publishing Corporation, Schenectady, NY

SECTION XI. ACRONYMS/DEFINITIONS USED IN THIS MSDS

ACGIH: American Conference of Governmental Industrial Hygienists
CAS#: CAS Registration Number is an assigned number to identify a material. CAS stands for Chemical Abstract Service.
EPA: Environmental Protection Agency
HMIS™: Hazardous Material Identification System, National Paint & Coatings Association.
IARC: International Agency for Research on Cancer
SARA: Superfund Amendments and Reauthorization Act
Title III: Emergency Planning and Community Right to Know Act
Section 302: Extremely Hazardous Substances
Section 304: Emergency Release
Section 313: Toxic Chemicals - Reporting
TCLP: Toxicity Characteristic Leaching Procedure
TLV: Threshold Limit Value (ACGIH)
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average - 8 hours
mg/m³: Milligrams per cubic meter
NFPA: National Fire Protection Association
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit (OSHA)
RCRA: Resource Conservation and Recovery Act (EPA)
SW-846: EPA Test Methods for Evaluating Solid Waste

Prepared/revised by: A.G.Nighswander
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