



UNIVERSAL MINERALS

211 Earl Garrett St
Kerrville, TX 78028

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MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

Manufacturer: Universal Minerals, Inc
211 Earl Garrett St
Kerrville, TX 78028

Creation Date: 11/2/15

For Additional Information, Contact: Universal Minerals, Inc.
Phone: (832)-530-4545
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MSDS Code: A.G.M.

PRODUCT IDENTIFICATION

Product Name: Special Iron Ore Fines

Formula: Fe₃O₄

Synonym (s): NA

Chemical Family:
Oxide of (1) Iron
(Magnetite)

TYPICAL CHEMICAL COMPOSITION

General Chemical Analysis

Fe	64.00%
SiO ₂	4.5%
P	.06%
S	.09%

Permissible Air Level

<u>OSHA PEL</u>	<u>ACGIH TLV</u>
NE	NE

Footnotes:

- (1) See last page for additional terms & conditions, including disclaimer of warranties.
- (2) Chemical Composition shown is typical. Elemental concentrations will vary between batches or lots.
- (3) Common names, if applicable, appear in parenthesis following the chemical names.

PHYSICAL DATA

<u>Physical State:</u>	Fine Powder	<u>Bulk Density:</u>	170 lbs/ft ³
<u>Appearance and Odor:</u>	Black, Odorless	<u>Vapor Pressure:</u>	NA
<u>Boiling Point (Method):</u>	NA	<u>Vapor Density:</u>	NA
<u>Melting Point:</u>	Over 1200° F	<u>Evaporation Rate:</u>	NA
<u>PH:</u>	NA	<u>Particle Size Distribution:</u>	+3/8" - 200 mesh

FIRE AND EXPLOSION HAZARD DATA

<u>Flash Point (Method):</u>	NA	<u>Lower Explosive Limit:</u>	NA
<u>Auto Ignition Temperature:</u>	NA	<u>Upper Explosive Limit:</u>	NA
<u>Fire Hazard:</u>	Non Flammable	<u>Explosion Hazard:</u>	NA
<u>Extinguishing Media:</u>	NA	<u>Special Fire Fighting Procedures:</u>	NA
<u>Unusual Fire and Explosion Hazards:</u>	NA		

REACTIVITY DATA

<u>Stability:</u>	Stable	<u>Incompatibilities (Materials to Avoid):</u>	Strong mineral acids Eg. HCl, H ₂ SO ₄ , HNO ₃ .
<u>Hazardous Thermal Decomposition Products:</u>	None Expected		
<u>Polymerization:</u>	Will not occur		

HEALTH HAZARD DATA

Health Effects/Signs and Symptoms: Long-term exposure to iron oxide fumes or dusts has been associated with a benign lung condition known as siderosis which is observable as an Xray change. No physical impairment of lung function has been linked to siderosis.

Usual Route (s) of Entry: Inhalation

Medical Conditions Possibly

Aggravated: Chronic diseases or disorders of the respiratory system.

Carcinogen Information: Not considered to be a Carcinogen.

FIRST AID AND MEDICAL EMERGENCY PROCEDURES

Eye Contact: Not anticipated to pose an acute or significant eye contact hazard.

Skin Contact: Not anticipated to pose an acute or significant skin contact hazard.

Inhalation: Not anticipated to pose an acute or significant inhalation hazard.

Ingestion: Not considered to be an ingestion hazard.

OCCUPATIONAL EXPOSURE CONTROL MEASURES

Engineering Controls (Ventilation, etc.): Ventilation should be sufficient to maintain dust levels below applicable exposure limit.

Work Practices (Handling and Storage, etc.): Avoid creating airborne dust by dust suppression methods.

Eye Protection: Safety glasses or goggles are recommended when dust levels are excessive.

Skin Protection: Gloves and long-sleeved clothing are recommended when dust levels are excessive.

Respiratory Protection: When engineering controls are not sufficient to lower dust levels below the applicable exposure limit, use a NIOSH-approved respirator for dusts and mists within the use limits of the respirator.

SPILL, LEAK AND DISPOSAL INFORMATION

Procedures to Follow if Material is Released or Spilled: Material should be swept or vacuumed into appropriate containers.

Waste Disposal Method(s): Dispose of waste material in accordance with local, state and federal regulations. Wastes may be reclaimed or salvaged for further use.

ADDITIONAL MISCELLANEOUS INFORMATION

NONE

Abbreviations: NA Not Applicable
 NE Not Established

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