SECTION 1. IDENTIFICATION

Product Name: Manganese Ferrite

Product Number: All applicable American Elements product codes, e.g. MN-FEIT-05-I 05 , MN-FEIT-05-L 05 , MN-FEIT-05-P 05 , MN-FEIT-05-ST 05

CAS #: 12063-10-4

Relevant identified uses of the substance: Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements
Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Synonyms : Manganese ferrite
Iron manganese oxide
Iron manganese spinel
Formula : MnFe2O4
Molecular weight : 230.63 g/mol
CAS-No. : 12063-10-4
EC-No. : 269-056-3
Hazardous components
Component Classification Concentration
SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures
General advice
Move out of dangerous area.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration.
In case of skin contact
Wash off with soap and plenty of water.
In case of eye contact
Flush eyes with water as a precaution.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Iron oxides, Manganese/manganese oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Avoid breathing Vapors, mist or gas.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.
SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Provide appropriate exhaust ventilation at places where dust is formed.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace control parameters

<table>
<thead>
<tr>
<th>Component CAS-No.</th>
<th>Value Control parameters</th>
<th>Basis</th>
<th>Iron manganese oxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>12063-10-4</td>
<td>C 5.000000 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Remarks Ceiling limit is to be determined from breathing-zone air samples.

<table>
<thead>
<tr>
<th>Component CAS-No.</th>
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<th>Basis</th>
<th>Iron manganese oxide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA 0.200000 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

USA. ACGIH Threshold Limit Values (TLV)
Central Nervous System impairment
Adopted values or notations enclosed are those for which changes are proposed in the NIC
See Notice of Intended Changes (NIC) varies

<table>
<thead>
<tr>
<th>Component CAS-No.</th>
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<th>Basis</th>
<th>Iron manganese oxide</th>
</tr>
</thead>
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<tr>
<td></td>
<td>TWA 1.000000 mg/m³</td>
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</table>

USA. NIOSH Recommended Exposure Limits

<table>
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<th>Value Control parameters</th>
<th>Basis</th>
<th>Iron manganese oxide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ST 3.000000 mg/m³</td>
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</table>

USA. NIOSH Recommended Exposure Limits

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<th>Iron manganese oxide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA 0.100000 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

USA. ACGIH Threshold Limit Values (TLV)
Central Nervous System impairment
2015 Adoption varies

<table>
<thead>
<tr>
<th>Component CAS-No.</th>
<th>Value Control parameters</th>
<th>Basis</th>
<th>Iron manganese oxide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA 0.020000 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

USA. ACGIH Threshold Limit Values (TLV)
Central Nervous System impairment
2015 Adoption
varies
C 5 mg/m³ USA. Occupational Exposure Limits
(OSHA) - Table Z-1 Limits for Air
Contaminants
Ceiling limit is to be determined from breathing-zone air samples.
TWA 0.1 mg/m³ USA. ACGIH Threshold Limit Values
(TLV)
Central Nervous System impairment
Not classifiable as a human carcinogen
varies
TWA 0.02 mg/m³ USA. ACGIH Threshold Limit Values
(TLV)
Central Nervous System impairment
Not classifiable as a human carcinogen
varies
TWA 1 mg/m³ USA. NIOSH Recommended
Exposure Limits
ST 3 mg/m³ USA. NIOSH Recommended
Exposure Limits
8.2 Exposure controls
Appropriate engineering controls
General industrial hygiene practice.
Personal protective equipment
Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as
NIOSH (US) or EN 166(EU).
Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique
(without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves
after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body Protection
Choose body protection in relation to its type, to the concentration and amount of dangerous
substances, and
to the specific work-place.. The type of protective equipment must be selected according to the
concentration
and amount of the dangerous substance at the specific workplace.
Respiratory protection
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use
type
N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under
appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure
Do not let product enter drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
a) Appearance Form: solid  
b) Odor: No data available 
c) Odor Threshold: No data available 
d) pH: No data available 
e) Melting point/freezing point: Melting point/range: > 300 °C (> 572 °F) 
f) Initial boiling point and boiling range: No data available 
g) Flash point: N/A 
h) Evaporation rate: No data available 
i) Flammability (solid, gas): No data available 
j) Upper/lower flammability or explosive limits: No data available 
k) Vapor pressure: No data available 
l) Vapor density: No data available 
m) Relative density: No data available 

n) Water solubility: No data available 
o) Partition coefficient: n-octanol/water: No data available 
p) Auto-ignition temperature: No data available 
q) Decomposition temperature: No data available 
r) Viscosity: No data available 
s) Explosive properties: No data available 
t) Oxidizing properties: No data available 

9.2 Other safety information 
No data available 

SECTION 10. STABILITY AND REACTIVITY 

10.1 Reactivity 
No data available 
10.2 Chemical stability 
Stable under recommended storage conditions. 
10.3 Possibility of hazardous reactions 
No data available 
10.4 Conditions to avoid 
No data available 
10.5 Incompatible materials 
No data available 
10.6 Hazardous decomposition products 
Other decomposition products: - No data available 
In the event of fire: see section 5 

SECTION 11. TOXICOLOGICAL INFORMATION 

11.1 Information on toxicological effects 
Acute toxicity 
No data available 
Inhalation: No data available 
Dermal: No data available 
No data available 
Skin corrosion/irritation 
No data available 
Serious eye damage/eye irritation 
No data available
Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: Not available

Men exposed to manganese dusts showed a decrease in fertility. Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. A stolid mask-like appearance of the face, emotional disturbances such as uncontrollable laughter and a spastic gait with tendency to fall in walking are findings in more advanced cases. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
No data available
SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT (US) Not dangerous goods
IMDG Not dangerous goods
IATA Not dangerous goods

SECTION 15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:
Iron manganese oxide
CAS-No. 12063-10-4
Revision Date 2007-07-01
SARA 311/312 Hazards
Chronic Health Hazard
Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know Components
Iron manganese oxide
CAS-No. 12063-10-4
Revision Date 2007-07-01
New Jersey Right To Know Components
Iron manganese oxide
CAS-No. 12063-10-4
Revision Date 2007-07-01
California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
SECTION 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 1997-2019 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.