SAFETY DATA SHEET: FERRIC OXIDE

1. IDENTIFICATION

Product Name: FERRIC OXIDE
Synonyms: Iron (III) oxide; Red iron oxide; C.I. 77491; Iron sesquioxide
Formula and Formula Weight: Fe2O3  159.69
Integra numbers beginning with: F221.10
Recommended Use: Laboratory uses, Manufacture of substances
Restrictions on Use: No information available

INTEGRA Chemical Company
24 Hour Emergency Response: CHEMTREC 800-424-9300 (Outside USA 703-527-3887)
1216 6th Ave N
Kent WA  98032
Phone: 253-479-7000

2. HAZARDS IDENTIFICATION

OSHA Classification:
Skin Corrosion/Irritation: 2 Causes skin irritation.
Eye Damage/Irritation: 2A Causes serious eye irritation.
Specific Target Organ Toxicity (single exposure): 3 May cause respiratory irritation.

Signal Word: WARNING

Precautionary Statements
Prevention:
Use only outdoors or in a well-ventilated area. Avoid breathing dust, fume, gas, mist, vapors, spray.
Wash thoroughly after handling.
Wear eye protection, face protection. Wear protective gloves.

Response
If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice, attention.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice, attention.
Call a poison center, doctor if you feel unwell.
Specific treatment (see first aid section on this label)
Take off contaminated clothing and wash it before reuse.

Storage
Store locked up in a well ventilated place. Keep container tightly closed.

Disposal
Dispose of contents, container in accordance with all governmental regulations.

Hazards Not Otherwise Classified: No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Synonyms</th>
<th>CAS #</th>
<th>% Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferric oxide</td>
<td>Iron (III) oxide; Red iron oxide; C.I. 77491; Iron sesquioxide</td>
<td>01309-37-1</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Inhalation: Remove person to fresh air and keep comfortable for breathing.
Eye Contact: Flush eyes with plenty of water. Remove contact lenses, if present and easy to do. If irritation persists, seek medical attention.
Skin Contact: Wash with soap and water. Seek medical attention if irritation develops.
Ingestion: If conscious, rinse mouth and give victim large amounts of water. Seek medical attention.
Additional notes: Symptoms and effects include skin, eye, gastrointestinal, respiratory irritation; nausea, vomiting.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Material is not flammable. Use extinguishing media suitable to surrounding materials.
Special Equipment and Precautions: Use water to cool nearby containers and structures. Wear full protective equipment, including suitable respiratory protection.
Specific Hazards: None identified
Hazardous combustion products: None identified

6. ACCIDENTAL RELEASE MEASURES

OSHA SDS #: 25646 rev 101  3/27/2015  FERRIC OXIDE
7. HANDLING AND STORAGE

Incompatible Materials: Incompatible with strong acids. Hydrazine, calcium hypochlorite, performic acid, chloroformates, peroxides.

Storage and Handling: Store locked up in a cool, dry, well-ventilated area away from incompatible materials. Keep containers tightly closed and protect them from physical damage. Protect from direct light and minimize contact with air.

Use only outdoors or in a well-ventilated area. Avoid breathing dust, fume, gas, mist, vapors, spray. Wash thoroughly after handling.

Wear eye protection, face protection. Wear protective gloves.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

OSHA & ACGIH Exposure Limits:
- Ferric oxide: OSHA TWA: 10 mg/m³ (as fume)  ACGIH TWA: 5 mg/m³ (respirable portion)
- Engineering Controls: Use general or local exhaust ventilation to meet TLV and PEL requirements.
- Respiratory Protection: Respiratory protection required if airborne concentrations exceed PEL or TLV. Use a NIOSH approved respirator with a particulate filter.
- Skin/Eye Protective Equipment: Safety goggles, protective clothing and gloves appropriate for the risk of exposure.

Facilities storing or utilizing this material should have readily accessible eyewash stations and safety showers. Select respirators and other safety equipment in accordance with regulations and based upon the particular conditions of use and risk of exposure. Always use safe chemical-handling and good industrial hygiene practices.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>Appearance</td>
<td>Red to brown powder</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
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</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting/Freezing Point</td>
<td>1565 °C</td>
</tr>
<tr>
<td>Initial Boiling Point and Boiling Range</td>
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</tr>
<tr>
<td>Flash Point</td>
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</tr>
<tr>
<td>Evaporation Rate</td>
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</tr>
<tr>
<td>Flammability</td>
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</tr>
<tr>
<td>Flammable or Explosive</td>
<td>Upper: Not available</td>
</tr>
<tr>
<td></td>
<td>Lower: Not available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
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</tr>
<tr>
<td>Vapor Density</td>
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<tr>
<td>Relative Density</td>
<td>5.24 g/cc</td>
</tr>
<tr>
<td>Solubility</td>
<td>Negligible solubility in water</td>
</tr>
<tr>
<td>Partition Coefficient: n-octanol/water</td>
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</tr>
<tr>
<td>Auto-Ignition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
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</table>

10. STABILITY AND REACTIVITY

- Reactivity: No information available
- Stability: Stable
- Possibility of Hazardous Reactions: Hazardous polymerization will not occur
- Conditions to Avoid: None identified
- Incompatibles: Incompatible with strong acids. Hydrazine, calcium hypochlorite, performic acid, chloroformates, peroxides.
- Decomposition Products: None identified

11. TOXICOLOGICAL INFORMATION

Effects of Over Exposure:
- Inhalation: Inhalation may irritate the nose, throat and upper respiratory tract.
- Skin Contact: Contact may cause skin irritation.
- Eye Contact: Contact may be irritating to the eyes.
- Ingestion: Ingestion of large quantities may cause gastrointestinal irritation, nausea and vomiting.
- Chronic Effects: Lung damage.
- Target Organs: Respiratory system.
- Additional Effects: No information available
- Reproductive Effects: No information available
- Carcinogenicity: Ferric oxide is listed by the IARC as Group 3, Unclassifiable.

Toxicity Data:
- Ferric oxide: No information available
12. ECOLOGICAL INFORMATION

<table>
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<tr>
<th></th>
<th>Aquatic Toxicity Data:</th>
<th>Terrestrial Toxicity Data:</th>
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</thead>
<tbody>
<tr>
<td>Ferric oxide</td>
<td>No information available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Persistence and degradability: No information available
Bioaccumulative potential: No information available
Mobility in soil: No information available
Other adverse effects: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Procedures: Dispose of material and containers in accordance with all local, state and federal regulations.

14. TRANSPORTATION INFORMATION

This product is not a regulated material for domestic ground transportation.

Environment hazards: No information available
Special precautions: No information available
Bulk transport: No information available

15. REGULATORY INFORMATION

Ferric oxide is listed in the TSCA inventory.

16. OTHER INFORMATION

OSHA SDS #: 25646 rev 101 3/27/2015

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***** END OF SDS *****