Ferric Nitrate MSDS

1. Product Name and Identification

Product Name: Ferric Nitrate
Synonyms: Iron(III) Nitrate, Ferric Nitrate Nonahydrate
Chemical Formula: Fe(NO3)3·9H2O
CAS Number: 7782-61-8
Recommended Use: Oxidizing agent, water treatment, laboratory reagent
Manufacturer/Supplier Contact Information:

- Address: [Insert specific address]
- Emergency Phone Number: [Insert appropriate phone number]

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2. Composition/Ingredients

Chemical Composition:

- **Substance Name:** Ferric Nitrate
- **Concentration:** >98% (Ferric Nitrate Nonahydrate)
- **CAS Number:** 7782-61-8
- **Additional Information:** No other hazardous components identified.

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3. Hazards Identification

Hazard Classification:

- Oxidizing solids (Category 2)
- Eye irritation (Category 2)
- Acute toxicity, oral (Category 4)

GHS Label Elements:

- **Pictograms:**
  ![Oxidizer Symbol]
  ![Exclamation Mark]
- **Signal Word:** Danger
- **Hazard Statements:**
  - H272 May intensify fire; oxidizer.
  - H302 Harmful if swallowed.

    - H319 Causes serious eye irritation.
- **Precautionary Statements:**
    - Keep away from heat, sparks, open flames, and combustible materials.
    - Wash hands thoroughly after handling.
    - Wear protective gloves, clothing, and eye protection.
    - Avoid contact with skin, eyes, and clothing.

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4. First Aid Measures

General Advice: Show this SDS to medical personnel in case of exposure.

Eye Contact: Rinse eyes cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do. Seek medical attention if irritation persists.

Skin Contact: Wash thoroughly with soap and water. Remove contaminated clothing. If symptoms occur or persist, seek medical advice.

Inhalation: Move to fresh air immediately. If breathing becomes difficult, seek medical attention. If the individual is not breathing, perform CPR and get immediate medical help.

Ingestion: Rinse the mouth with water. Do NOT induce vomiting. Seek medical assistance immediately.

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5. Handling and Storage

Handling:

- Handle in a well-ventilated area.
- Avoid the generation and accumulation of dust.
- Prevent contact with skin, eyes, and clothing.
- Avoid exposure to incompatible materials such as combustible substances.

Storage:

- Store in original, tightly sealed containers in a dry, cool, and well-ventilated place.
- Keep away from flammable substances, reducing agents, and heat sources.

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6. Exposure Controls/Personal Protection

Exposure Limits:

- No specific occupational exposure limits established. Handle with care to minimize contact.

Engineering Controls:

- Use sufficient ventilation or local exhaust to maintain airborne concentrations below exposure limits.

Personal Protective Equipment (PPE):

- **Eye Protection:** Safety goggles or face shield.
- **Skin Protection:** Chemical-resistant gloves and long-sleeved clothing.
- **Respiratory Protection:** Use NIOSH-approved respirators for airborne dust or mist.
- **Hygiene Measures:** Do not eat, drink, or smoke while handling. Wash thoroughly after use.

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7. Physical and Chemical Properties

- **Appearance:** Pale yellow, crystalline solid or powder
- **Odor:** Odorless
- **Odor Threshold:** Not applicable
- **pH (in water):** Approximately 1 - 3 (5% solution)
- **Melting Point:** Decomposes on heating (above 47°C for nonahydrate)
- **Boiling Point:** Not applicable (decomposes before boiling)
- **Flash Point:** Not applicable (non-combustible)
- **Flammability:** Non-combustible but can enhance fire in other materials
- **Vapor Pressure:** Negligible
- **Vapor Density:** Not applicable
- **Relative Density:** 1.68 g/cm^3 at 20°C
- **Solubility in Water:** Highly soluble
- **Partition Coefficient (n-octanol/water):** Not applicable
- **Auto-Ignition Temperature:** Not applicable
- **Decomposition Temperature:** Begins decomposing above 47°C

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8. Stability and Reactivity

Stability: Stable under recommended storage and handling conditions.

Hazardous Reactions: Reacts with combustible substances, strong reducing agents, and organic materials, potentially causing fire or explosion hazards.

Conditions to Avoid: Heat, moisture, combustible materials.

Materials to Avoid: Organic substances, reducing agents, bases, and flammable materials.

Hazardous Decomposition Products: Emits nitrogen oxides (NOx) and ferric oxides when decomposed.

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9. Toxicological Information

Acute Toxicity:

- **Oral LD50 (Rat):** Approximately 300 - 2,000 mg/kg (harmful if swallowed)

Skin Corrosion/Irritation: May cause mild skin irritation upon contact.

Eye Irritation: Causes significant irritation upon contact.

Sensitization: Not classified as a skin or respiratory sensitizer.

Carcinogenicity: No evidence of carcinogenic effects per IARC, NTP, or OSHA.

Other Information: Prolonged exposure can lead to irritation of the respiratory tract if dust is inhaled.

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10. Disposal Considerations

Waste Management: Dispose of unused material through a licensed waste disposal contractor.

Recommendation: Follow all local, state, and federal environmental regulations for disposal.

Empty Containers: Do not reuse containers. Dispose of them properly in accordance with applicable laws.
