




MSDS Number: **F1306** \* \* \* \* \* *Effective Date: 04/02/07* \* \* \* \* \* *Supersedes: 07/28/06*

	24 Hour Emergency Telephone: 908-859-2151 CHEMTREC: 1-800-424-9300
	National Response in Canada CANUTEC: 613-996-6666
From: Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865	Outside U.S. and Canada Chemtrec: 703-527-3887
 	NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.
All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.	

# Ferric Oxide

## 1. Product Identification

**Synonyms:** Iron (III) Oxide; Red Iron Oxide; C.I. 77491; Iron Sesquioxide  
**CAS No.:** 1309-37-1  
**Molecular Weight:** 159.69  
**Chemical Formula:** Fe<sub>2</sub>O<sub>3</sub>  
**Product Codes:**  
 J.T. Baker: 2024  
 Mallinckrodt: 5424, 5493

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Iron Oxide, Fe <sub>2</sub> O <sub>3</sub>	1309-37-1	98 - 100%	Yes

## 3. Hazards Identification

### Emergency Overview

**WARNING! HARMFUL IF INHALED. AFFECTS RESPIRATORY SYSTEM. MAY CAUSE IRRITATION TO EYES AND RESPIRATORY TRACT.**

**SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate (Life)  
 Flammability Rating: 0 - None  
 Reactivity Rating: 0 - None  
 Contact Rating: 1 - Slight  
 Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: Green (General Storage)

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### Potential Health Effects

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**Inhalation:**

May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.

**Ingestion:**

Extremely large oral dosages may produce gastrointestinal disturbances.

**Skin Contact:**

No adverse effects expected.

**Eye Contact:**

May cause mechanical irritation.

**Chronic Exposure:**

Long-term inhalation exposure to iron has resulted in mottling of the lungs, a condition referred to as siderosis.

This is considered a benign pneumoconiosis and does not ordinarily cause significant physiological impairment.

Long term eye exposures may stain the eyes and leave a "rust ring".

**Aggravation of Pre-existing Conditions:**

Persons with impaired respiratory function may be more susceptible to the effects of the substance.

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## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. Get medical attention for any breathing difficulty.

**Ingestion:**

If large amounts were swallowed, give water to drink and get medical advice.

**Skin Contact:**

Wash exposed area with soap and water. Get medical advice if irritation develops.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally.

Get medical attention if irritation persists.

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## 5. Fire Fighting Measures

**Fire:**

Not expected to be a fire hazard.

**Explosion:**

No information found.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills:

Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

- OSHA Permissible Exposure Limit (PEL) -  
Iron oxide fume: 10 mg/m<sup>3</sup>
- ACGIH Threshold Limit Value (TLV) -  
Iron oxide (Fe<sub>2</sub>O<sub>3</sub>): 5 mg/m<sup>3</sup> (TWA) respirable fraction.
- A4 - Not classifiable as a human carcinogen.

### **Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### **Personal Respirators (NIOSH Approved):**

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### **Skin Protection:**

Wear protective gloves and clean body-covering clothing.

### **Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

### **Appearance:**

Reddish-brown powder.

### **Odor:**

No information found.

### **Solubility:**

Negligible (< 0.1%)

### **Specific Gravity:**

5.24

### **pH:**

No information found.

### **% Volatiles by volume @ 21C (70F):**

0

### **Boiling Point:**

No information found.

### **Melting Point:**

1565C (2849F)

### **Vapor Density (Air=1):**

Not applicable.

**Vapor Pressure (mm Hg):**

Not applicable.

**Evaporation Rate (BuAc=1):**

No information found.

## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

No information found.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Carbon monoxide, hydrazine, calcium hypochloride, performic acid, bromine pentafluoride.

**Conditions to Avoid:**

Incompatibles.

## 11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure. Investigated as a tumorigen.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Iron Oxide, Fe2O3 (1309-37-1)	No	No	3

## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Iron Oxide, Fe2O3 (1309-37-1)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	DSL	NDSL	Phil.
Iron Oxide, Fe2O3 (1309-37-1)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-	TPQ	List	SARA 313
Iron Oxide, Fe2O3 (1309-37-1)	No	No	No	Chemical Catg. No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA-	-TSCA-
Iron Oxide, Fe2O3 (1309-37-1)	No	261.33	8(d) No

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
 SARA 311/312: Acute: Yes      Chronic: Yes      Fire: No      Pressure: No  
 Reactivity: No      (Pure / Solid)

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 1 Flammability: 0 Reactivity: 0

**Label Hazard Warning:**

WARNING! HARMFUL IF INHALED. AFFECTS RESPIRATORY SYSTEM. MAY CAUSE IRRITATION TO EYES AND RESPIRATORY TRACT.

**Label Precautions:**

- Avoid contact with eyes, skin and clothing.
- Wash thoroughly after handling.
- Avoid breathing dust.
- Keep container closed.
- Use only with adequate ventilation.

**Label First Aid:**

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

MSDS Section(s) changed since last revision of document include: 3.

**Disclaimer:**

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