



# Super Conductor Materials, Inc.

391 Spook Rock Industrial Park, Suffern, NY 10901 · 845.368.0240 · Fax 845.368.0250 · www.scm-inc.com

Chemtrec: (800) 424-9300  
Poison Center: (800) 562-8236  
Revision Date: January 8<sup>th</sup>, 2019

## SAFETY DATA SHEET

Identity: Iron Oxide

Formula: Fe<sub>2</sub>O<sub>3</sub>

### SECTION I - GENERAL INFORMATION

Manufacturer: Super Conductor Materials, Inc.

The information below is believed to be accurate and represents the best information available to Super Conductor Materials, Inc. However, SCM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

### SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 159.69

CAS #	OSHA PEL	ACGIH TLV	%
1309-37-1	10 mg (Fe)/m <sup>3</sup>	5mg (Fe)/m <sup>3</sup>	0.0-100.0%

### SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N.A.	Vapor Pressure: (vs. Air or mm Hg): NA
Melting Point: 1565.00C ( 2849.0 F)	Specific Gravity (water=1): 5.24 gm/cc
Evaporation Rate (vs Butyl Acetate=1) NA	Vapor Density: (Air=1): NA
Solubility in water: Insoluble/Soluble in HCl and H <sub>2</sub> SO <sub>4</sub>	Flash Point: N.A.

*Appearance and odor:* Red-Brown to black powder pieces. No odor.

### SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

*Method Used:* NON-FLAMMABLE      *Explosive Limits:* LEL: NA      UEL: NA

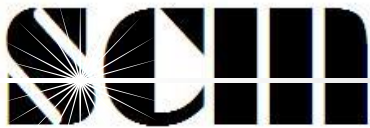
*Extinguishing Media:*

USE: Not applicable. Use suitable extinguishing media for surround materials and type of fire.

*Special Fire Fighting Procedures:* Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

*Unusual Fire and Explosion Hazards:*

–May have a violent reaction when heated with powdered aluminum, calcium disilicide, magnesium, metalacetylde, cesium actelyde rubidium and possibly have an explosive reaction when heated with guanidinium perchlorate.



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- Iron oxide has the potential to react violently with hydrogen peroxide. Reaction with carbon monoxide may form an explosive product.
- The wet oxide may react explosively with molten aluminum-magnesium alloys.
- May catalyze the potentially explosive polymerization of ethylene oxide.

## SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (stability):* None

*Incompatibility-Materials to Avoid:* Hydrogen peroxide, magnesium, metal acetylides, aluminum, calcium disilicide, carbon monoxide, ethylene oxide, guanidinium perchlorate and aluminum-magnesium alloys.

*Hazardous Decomposition or Byproducts:* No data

*Hazardous Polymerization:* Will occur

*Conditions to avoid (hazardous polymerization):* None

## SECTION VI - HEALTH HAZARD DATA

*Route of Entry:* Inhalation? Yes    Ingestion? Yes    Skin? Yes    Eyes? Yes    Other? No

Iron oxide is a poison by subcutaneous route. Questionable carcinogen with experimental tumorigenic data. (Sax, Dangerous Properties of Industrial Materials, Ninth edition)

Iron compounds have varying toxicity. Exposure to iron oxides is potentially a serious risk in all industrial settings. Some iron compounds are suspected carcinogens. In general, ferrous compounds are more toxic than ferric compounds. (Sax, Dangerous Properties of Industrial Materials, ninth edition)

### Signs and Symptoms of Overexposure:

*Inhalation:* May cause a red, dry throat. Acute iron poisoning may cause: biphasic shock, a rapid increase in respiration and pulse rate, congestion of blood vessels which may lead to hypotension, pallor and drowsiness. Chronic iron poisoning may cause: hemorrhagic necrosis of the gastrointestinal tract, hepatotoxicity, metabolic acidosis, prolonged blood clotting time, elevation of plasma levels of serotonin and histamine.

*Inhalation:* No acute or chronic health effects recorded.

*Skin:* May cause redness, itching and burning.

*Eye:* May cause redness, itching, burning and watering.

### Health Hazards (Acute and Chronic):

#### *Inhalation:*

Acute: May cause irritation of the upper respiratory tract and possibly acute iron poisoning.

Chronic: May cause chronic iron poisoning.

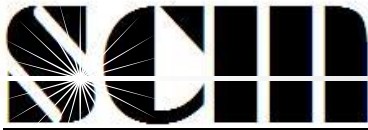
#### *Ingestion:*

Acute: No acute health effects recorded.

Chronic: No chronic health effects recorded.

#### *Skin:*

Acute: No acute health effects recorded.



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Chronic: Repeated or prolonged contact may cause irritation.

*Eye:*

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

*Target Organs:* May affect the blood

*Carcinogenicity:* NTP? No IARC Monographs? No OSHA Regulated? No

*Medical Conditions Generally Aggravated by Exposure:* Pre-existing respiratory disorder

*Emergency and First Aid Procedures:*

*Inhalation:* Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; and seek medical attention if symptoms persist.

*Ingestion:* Give 1-2 glasses of milk or water and induce vomiting, seek medical attention if symptoms persist. Never induce vomiting or give anything by mouth to an unconscious person.

*Skin:* Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist.

*Eye:* Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention immediately.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

*Steps to be taken in case material is released or spilled:*

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area, provide ventilation and extinguish sources of ignition. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

*Waste disposal method:*

Dispose of in accordance with state, local, and federal regulations.

*Hazard Label Information:*

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

SECTION VIII - CONTROL MEASURES

*Protective Equipment Summary (Hazard Label Information):*

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

*Ventilation:*

Local Exhaust: To maintain concentration at or below the PEL, TLV

Mechanical (Gen): Recommended

*Work/Hygienic/Maintenance Practices:*

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established