

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 8th, 2019

SAFETY DATA SHEET

Identity: Iron Carbide

Formula: Fe₃C

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: 179.55

CAS #	OSHA PEL	ACGIH TLV	%
12011-67-5	10 mg/m ³	5 mg /m ³	0.0-100.0%

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Powder

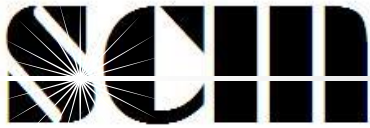
Boiling Point: N/A	Vapor Pressure: (mm hg): N/A
Melting Point: 1837°C	Vapor Density: (Air=1): N/A
Evaporation Rate: N/A	Specific Gravity (water=1): 7.694
Solubility in water: Insoluble	Flash Point: Not flammable, but may be subject to slow oxidation if stored at temperature above 140°F.

Appearance and odor: Gray, cubic powder, pieces, sputtering target, odorless

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Not flammable *Explosive Limits:* LEL: N/A UEL: N/A

Fire Extinguishing Media: Not flammable. Use appropriate extinguishing media for the combustible material involved in the fire. Use powdered graphite, sale or limestone. Do not use water or dry chemical. If oxidation should occur, heat will be liberated which could cause surrounding combustibles to burn. If oxidation starts, the pallet should be broken apart and cooled with water to dissipate the heat.



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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: Storage at temperature above 140°F may cause the black iron carbide to oxidize, generating heat which could cause surrounding combustibles to burn. Mixtures with aluminum + calcium silicon + sodium nitrate may explode if ignited. Mixtures with aluminum + sulfur react violently if heated. Ignites on contact with hydrogen trisulfide.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (stability): Material is not stable if stored at temperatures above 140°F

Incompatibility: No Data Available

Hazardous Decomposition: Metallic dust or fumes maybe be produced during welding, burning, grinding, and machining.

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Routes of entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? No Other? No

To the best of our knowledge, the chemical, physical and toxicological properties of iron carbide have not been thoroughly investigated and recorded. Iron compounds have varying toxicity. Exposure to iron carbide 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, eight edition).

Signs and Symptoms of overexposure: No Data Available

Health Hazards (Acute and Chronic):

Inhalation:

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

Chronic: May cause chronic poisoning

Ingestion:

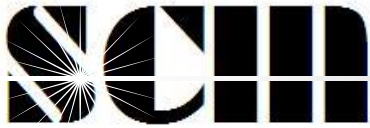
Acute: No acute health effect recorded

Chronic: No chronic health effect recorded

Skin:

Acute: No chronic health affects recorded

Chronic: Repeated or prolonged contact may cause irritation.



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Eyes:

Acute: May cause irritation

Chronic: No chronic health effects reordere

Target Organ: May affect the blood

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

Medical Conditions Aggravated by Exposure: Pre-existing impaired respiratory function

Emergency and First Aid Procedures:

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

Ingestion: Do not induce vomiting, seek medical attention immediately.

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

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-Control Measures. Isolate spill area, provide ventilation. 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. Use with adequate ventilation.

Precautions: Store dry at ambient temperatures away from any beverages. Avoid brthg dust. Do not store near strong oxidizers and sources of heat.

SECTION VIII - CONTROL MEASURES

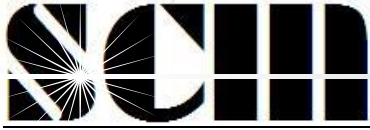
Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact, goggles or face shield.

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Recommended.



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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