

Material Safety Data Sheet

Identity: Iron

Formula: Fe

SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM 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: 55.847

CAS #	OSHA PEL	ACGIH TLV	%
7439-89-6	10mg/m ³	5.0mg/m ³	>98.5%

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 3000 °C

Specific Gravity (H₂O=1): N/A

Melting Point: 1535 °C

Vapor Pressure (vs. air or mmHg): 1mmHg at 1787 °C

Evaporation Rate: N/A

Vapor Density (vs. air=1): N/A

Solubility in water: Insoluble

Flash Point: N/A

Appearance and odor: Grey powder and pieces, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Extinguishing Media: Dry chemical, dry sand, graphite, dolomite, or sodium chlorate DO NOT Use water*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: Moderate hazard as fire powder when exposed to open flame

SECTION V - REACTIVITY DATA

Stability: Stable to ignition temperature of 700 °C*Conditions to Avoid (stability):* None recorded*Incompatibility:* Low reactivity with acids

Hazardous Decomposition or Byproducts: None identified
Hazardous Polymerization: will not occur
Conditions to avoid (hazardous polymerization): None recorded

SECTION VI - HEALTH HAZARD DATA

Iron is an essential nutrient. Iron compounds as a class are not associated with any particular industrial risk, although inhalation of iron oxide fumes or dust may cause benign pneumoconiosis (siderosis). Dose levels of iron among iron workers developing siderosis have been reported to exceed 10mg iron/m³. No component of this product, as levels greater than 0.1%, is identified as a carcinogen by the US national Toxicology Program, the US Occupational Safety and Health Act or the International Agency for Research on Cancer.

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

Signs and Symptoms of Overexposure:

Inhalation: No significant irritation expected other than possible irritation of throat and mouth

Ingestion: No significant health hazards identified

Skin: No significant irritation expected other than possible redness and itching

Eye: No significant irritation expected other than possible redness, watering, and burning

Medical Conditions Aggravated by Exposure:

Pre-existing respiratory problems, and other pre-existing allergies to iron

Emergency and First Aid Procedures:

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

Ingestion: Give 1-2 glasses of milk or water, seek medical attention. 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

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. Do not dump in sewers, in the ground or in any body of water

Hazard Label Information:

Store in cool (-18 °C to 38 °C), 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 low exposure levels.

Mechanical (General): 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
