

MATERIAL SAFETY DATA SHEET



SuGroW™ IRON (Fe~50%)

IRON SUCRATE, GRANULAR (Fe-50%)

I. Product and Manufacturer Information

Material/Product Name: SUGROW™ Iron, (50%-Fe)

Chemical Name: Iron Sucrate (Fe~50%)

Manufacturer's Name

& Address: QC Corporation

5566 Nash Road

Cape Girardeau, MO 63701

Emergency Telephone#: 410-486-0010

Chemtrec#: 800-424-9300

Date Prepared: 12/29/2003

Synonyms: Iron carboxylate; iron oxide, saccharated; iron sugar.

A granulated micronutrient containing 50% iron.

II. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous	Exposure Limits
Iron oxide, saccharated	8047-67-4	71-85	No ¹	OSHA PEL:TWA (oxide fume): 10 mg/m ³ ; Nuisance particulate "Not Otherwise Regulated": total dust: 15 mg/m ³ ; respirable dust: 5 mg/m ³ .
Respirable crystalline	14808-60-7	1-2	Yes	OSHA PEL:TWA: total: 30 mg/m ³ / SiO ₂ + 2; respirable: 10 mg/m ³ / SiO ₂ + 2.
Miscellaneous non-hazardous ingredients	-----	13.1-27.5	No	OSHA PEL:TWA: Nuisance particulate "Not Otherwise Regulated": total dust: 15 mg/m ³ ; respirable dust: 5 mg/m ³ .

¹Iron oxide saccharated – IARC cancer review: Animal sufficient evidence.

III. Hazards Identification

Emergency Overview

WARNING! MAY CAUSE IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.
HARMFUL IF SWALLOWED OR INHALED.

Health Rating: 1 - Slight

Flammability Rating: 0 - None

Reactivity Rating: 0 - None

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; GLOVES; LAB COAT

Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation: Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

Ingestion: Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

Low toxicity in small quantities but larger dosages may cause nausea, vomiting, diarrhea, and black stool.

Pink urine discoloration is a strong indicator of iron poisoning. Liver damage, coma, and death from iron poisoning have been recorded.

Skin Contact: Causes irritation to skin. Symptoms include redness, itching, and pain.

Eye Contact: Causes irritation, redness, scratching of the cornea, and watering of the eye.
Chronic Exposure: Dust generated from this product may contain trace amounts of respirable crystalline silica. Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling and sometimes fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function.
Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

IV. First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.
Ingestion: Induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention.
Skin Contact: Wash affected areas with soap and water. If skin irritation persists, seek medical attention. Wash clothing before reuse.
Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek medical attention.

V. Fire-Fighting Measures

Fire: Not considered to be a fire hazard.
Explosion: Not considered to be an explosion hazard. Sealed containers may rupture when heated.
Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.
Special Information: Use protective clothing and breathing equipment appropriate for the surrounding fire.

VI. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8.
Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

VII. Handling and Storage

Product requires no special precautions and is stable under normal storage conditions. Protect against physical damage. Keep separate from strong oxidizers.

VIII. Exposure Controls / Personal Protection

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): Use appropriate respiratory protection for respirable particulate based on consideration of anticipated airborne concentration of particulates. Select a NIOSH approved respirator in accordance with the requirements of 29 CFR 1910.134.
Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Eye Protection: Use safety glasses or chemical safety goggles and/or full face shield where dusting is possible. Maintain eye wash fountain and quick-drench facilities in work area.
Personal Hygiene Practices: Maintain good housekeeping practices. Avoid contact with skin, eyes, and clothing. Wash hands after handling this product.

IX. Physical and Chemical Properties

Appearance: Black free-flowing granules
Solubility: Slight
Specific Gravity (water=1): 3.4
pH: NA
% Volatiles by volume @ 21C (70°F): 0
Boiling Point: Not applicable.
Melting Point: > 1565°C (2849°F)
Vapor Density (Air=1): NA
Vapor Pressure (mm Hg): NA
Evaporation Rate (BuAc=1): NA

X. Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products: None identified.
Hazardous Polymerization: Will not occur.
Incompatibilities: Strong oxidizers.
Conditions to Avoid: None known.

XI. Toxicological Information

Iron oxide, saccharated CAS# 8047-67-4 Toxicity Data: (SAX)

- Intramuscular-rat TDLo: 148 g/kg/74W:Neoplastic effects;
- Subcutaneous-mouse TDLo: 104 g/kg/13W-I: Equivocal tumorigenic agent;
- Subcutaneous-mouse TD: 150 g/kgI: Equivocal tumorigenic agent;
- Intravenous-mouse LD₅₀: 180 mg/kg.

Silica, quartz CAS# 14808-60-7 Toxic and hazard review: (SAX)

Experimental poison by intratracheal and intravenous routes. An experimental carcinogen, tumorigen, and neoplastigen. Human systemic effects by inhalation: cough, dyspnea, liver effects. Listed by IARC as a "Known Human Carcinogen – Group 1". Listed by NTP. No LD₅₀ in RTECS.

Inhalation human: TCLo 16 million particles per cubic centimeter per 8 hours per 17.9 years-intermittent:

Pulmonary system effects;

Inhalation human LCLo: 300 micrograms/m³ per 10 years-intermittent: liver.

Other species toxicity data (NIOSH RTECS):

Intravenous-rat LDLo: 90 mg/kg; Intraperitoneal-rat LDLo: 200 mg/kg;

Intravenous-mouse LDLo: 40 mg/kg; Intravenous-dog LDLo: 20 mg/kg.

Other ingredients: No LD₅₀ or LC₅₀ found for oral, dermal, or inhalation routes of administration.

XII. Ecological Information

Environmental Fate: No information found.

Environmental Toxicity: No information found.

XIII. 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.

XIV. Transport Information

US Department of Transportation: Not regulated by DOT as a hazardous material. No label, placard, or hazard class required. No UN or NA number assigned.

XV. Regulations

Product or components of mixture regulated under the following lists: SARA TITLE III:

Section 302: No (Extremely Hazardous Substances)

Section 304: No (Emergency Release)

Section 311: Yes, Chronic effects, crystalline silica, MSDS

Section 312: Yes, Tier I / II

Section 313: No (Toxic Chemicals, Toxic Chemical Release Reporting, Form R)

CERCLA Hazardous Substance List, RQ: No

TSCA: Yes. All substances contained in this product are listed in TSCA inventory.

XVI. Other Information

NFPA Ratings: Health: 0 Flammability: 0 Reactivity: 0

Label Precautions:

Avoid breathing dust.

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

Use only with adequate ventilation.

Label First Aid:

In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes.

In case of skin contact, wash affected areas with soap and water. Wash clothing before reuse.

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

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