

## Iron: sc-215190

## MATERIAL SAFETY DATA SHEET

**SECTION 1 - PRODUCT AND COMPANY INFORMATION**

Product Name: Iron

Catalog Number: sc-215190

Supplier: Santa Cruz Biotechnology, Inc.  
2145 Delaware Ave.  
Santa Cruz, California 95060  
800.457.3801 or 831.457.3800

Emergency: ChemWatch  
Within the US & Canada: 877-715-9305  
Outside the US & Canada: +800 2436 2255  
(1-800-CHEMCALL) or call +613 9573 3112

**SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENT**

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>
Iron	7439-89-6	No

Formula: Fe

Molecular Weight: 55.85

**SECTION 3 - HAZARDS IDENTIFICATION**

## EMERGENCY OVERVIEW

Flammable (USA) Highly Flammable (EU).

## HMIS RATING

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 2

## NFPA RATING

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 2

For additional information on toxicity, please refer to Section 11.

**SECTION 4 - FIRST AID MEASURES**

## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

## INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

## DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

## EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

**SECTION 5 - FIRE FIGHTING MEASURES**

## FLAMMABLE HAZARDS

Flammable Hazards: Yes

## FLASH POINT

N/A

## AUTOIGNITION TEMP

> 100 °C

## FLAMMABILITY

N/A

## EXTINGUISHING MEDIA

Suitable: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

## FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific Hazard(s): Flammable solid. Emits toxic fumes under fire conditions.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

## PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

## PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

## METHODS FOR CLEANING UP

Avoid raising dust. Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

**SECTION 7 - HANDLING AND STORAGE**

## HANDLING

User Exposure: Avoid contact with eyes, skin, and clothing. Avoid breathing dust. Avoid prolonged or repeated exposure.

## STORAGE

Suitable: Keep container closed. Keep away from heat, sparks, and open flame.

## SPECIAL REQUIREMENTS

Store under inert gas. Moisture sensitive. Desiccate at room temperature.

**SECTION 8 - EXPOSURE CONTROLS / PPE**

## ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

## PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.  
Hand: Compatible chemical-resistant gloves.  
Eye: Chemical safety goggles.

## GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

## Section 9 - Physical/Chemical Properties

Form ..... Solid  
pH ..... 7.0 - 9.0  
BP/BP Range ..... 2,730 °C  
MP/MP Range ..... 1,535 °C  
Freezing Point ..... N/A  
Vapor Pressure ..... N/A  
Vapor Density ..... N/A  
Saturated Vapor Conc. .... N/A  
SG/Density ..... 7.86 g/cm<sup>3</sup>  
Bulk Density ..... 3,000.0 - 4,000.0 kg/l  
Odor Threshold ..... N/A

*continued...*

Volatile% .....N/A  
VOC Content .....N/A  
Water Content .....N/A  
Solvent Content .....N/A  
Evaporation Rate .....N/A  
Viscosity .....N/A  
Surface Tension .....N/A  
Partition Coefficient .....N/A  
Decomposition Temp. ....N/A  
Flash Point .....N/A  
Explosion Limits .....N/A  
Flammability .....N/A  
Autoignition Temp ..... > 100 °C  
Refractive Index .....N/A  
Optical Rotation .....N/A  
Miscellaneous Data .....N/A  
Solubility Solubility in Water ..... Insoluble.  
N/A = not available

### SECTION 10 - STABILITY AND REACTIVITY

#### STABILITY

Reactions to Avoid: Reacts violently with: Halogens Phosphorus  
Conditions to Avoid: Moisture.  
Materials to Avoid: Acids, Oxygen, Strong oxidizing agents.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Iron oxides.

#### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

### SECTION 11 - TOXICOLOGICAL INFORMATION

#### ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.  
Skin Absorption: May be harmful if absorbed through the skin.  
Eye Contact: May cause eye irritation.  
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.  
Ingestion: May be harmful if swallowed.

#### SIGNS AND SYMPTOMS OF EXPOSURE

Overdose of iron compounds may have a corrosive effect on the gastrointestinal mucosa and be followed by necrosis, perforation, and stricture formation. Several hours may elapse before symptoms that can include epigastric pain, diarrhea, vomiting, nausea, and hematemesis occur. After apparent recovery a person may experience metabolic acidosis, convulsions, and coma hours or days later. Further complications may develop leading to acute liver necrosis that can result in death due to hepatic coma. Long term inhalation exposure to iron (oxide fume or dust) can cause siderosis. Siderosis is considered to be a benign pneumoconiosis and does not normally cause significant physiologic impairment. Siderosis can be observed on x-rays with the lungs having a mottled appearance.

#### TOXICITY DATA

Oral  
Rat  
30000 mg/kg  
LD50  
Remarks: Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

Oral  
Guinea pig  
20000 mg/kg  
LD50

Remarks: Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

#### CHRONIC EXPOSURE - CARCINOGEN

Species: Rat  
Route of Application: Intratracheal  
Dose: 450 MG/KG  
Exposure Time: 15W  
Frequency: I

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors.

### SECTION 12 - ECOLOGICAL INFORMATION

No data available.

### SECTION 13 - DISPOSAL CONSIDERATIONS

#### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Material in the elemental state should be recovered for reuse or recycling. Observe all federal, state, and local environmental regulations.

### SECTION 14 - TRANSPORT INFORMATION

#### DOT

Proper Shipping Name: Metal powders, flammable, n.o.s.  
UN#: 3089  
Class: 4.1  
Packing Group: Packing Group III  
Hazard Label: Flammable solid  
PIH: Not PIH

#### IATA

Proper Shipping Name: Metal powder, flammable, n.o.s.  
IATA UN Number: 3089  
Hazard Class: 4.1  
Packing Group: III

### SECTION 15 - REGULATORY INFORMATION

#### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: F  
Indication of Danger: Highly Flammable.  
R: 11  
Risk Statements: Highly flammable.  
S: 16-33  
Safety Statements: Keep away from sources of ignition - no smoking. Take precautionary measures against static discharges.

#### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable (USA) Highly Flammable (EU).  
Safety Statements: Keep away from sources of ignition - no smoking. Take precautionary measures against static discharges.

#### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No  
TSCA INVENTORY ITEM: Yes Yes

#### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
DSL: Yes  
NDSL: No

### SECTION 16 - OTHER INFORMATION

*The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.*

6/12/13