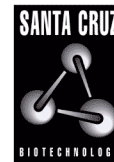


Nickel Iron composite: sc-301464



The Power to Question

MATERIAL SAFETY DATA SHEET

1 Identification of substance:

Product Name: Nickel Iron composite
Catalog Number: sc-301464
Supplier: Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
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

2 Composition/Data on components:

Chemical characterization:
Description: (CAS#)
Iron (CAS# 7439-89-6); 20%
Nickel (CAS# 7440-02-0); 80%

3 Hazards identification

Hazard description:



Xn Harmful
F Highly flammable

Information pertaining to particular dangers for man and environment

R 11 Highly flammable.
R 36/37 Irritating to eyes and respiratory system.
R 40 Limited evidence of a carcinogenic effect.
R 43 May cause sensitization by skin contact.

Classification system

HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)

HEALTH	1
FIRE	2
REACTIVITY	1

Health (acute effects) = 1
Flammability = 2
Reactivity = 1

GHS label elements



Warning

2.7/2 - Flammable solid.



Warning

3.6/2 - Suspected of causing cancer.



Warning

3.3/2A - Causes serious eye irritation.
3.4/1 - May cause an allergic skin reaction.
3.8/3 - May cause respiratory irritation.

Prevention:

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/ equipment.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.

Response:

IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment (see label).
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO₂, powder or water spray.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

4 First aid measures

After inhalation

Supply fresh air and to be sure call for a doctor.
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents Special powder for metal fires. Do not use water.

For safety reasons unsuitable extinguishing agents Water

Protective equipment:

Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Keep away from ignition sources.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling

Information for safe handling:

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Storage

Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility:

Do not store together with oxidizing and acidic materials.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

Nickel and inorganic compounds, as Ni

	mg/m ³
ACGIH TLV	1.5; A5 (metal) 0.2; A1 (insoluble compounds) 0.1; A4 (soluble compounds)
Austria	Carcinogen
Denmark TWA	0.5
Finland TWA	0.1 (skin) Carcinogen
France VME	1; C3-Carcinogen
Germany	Carcinogen
Hungary	0.005-STEL; Carcinogen (insoluble compounds)
Japan OEL	1; 2B-Carcinogen
Korea TLV	1.5
Netherlands MAC-TGG	1; Carcinogen 1 (insoluble compounds)
Poland TWA	0.25
Russia	0.05-STEL
Sweden NGV	0.5 (dust)
Switzerland MAK-W	0.5; Carcinogen
United Kingdom TWA	0.1
USA PEL	1

Additional information: No data

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands: Impervious gloves

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information	
Form:	Powder
Color:	Silver grey
Odor:	Odorless
Change in condition	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Flash point:	Not applicable
Flammability (solid, gaseous)	Highly flammable.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Density:	Not determined
Solubility in / Miscibility with	
Water:	Insoluble

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided:

Oxidizing agents

Oxygen

Halogens

Dangerous reactions Reacts with oxidizing agents

Dangerous products of decomposition: Metal oxide fume

11 Toxicological information

Acute toxicity:

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: Sensitization possible through skin contact.

Subacute to chronic toxicity:

Iron compounds may cause vomiting, diarrhea, pink urine, black stool, and liver damage. May cause damage to the kidneys. Irritating to the respiratory tract, they may cause pulmonary fibrosis if dusts are inhaled.

Nickel and nickel compounds may cause a form of dermatitis known as nickel itch. They may also cause intestinal disorders, convulsions and asphyxia. Airborne nickel contaminated dusts are regarded as carcinogenic to the respiratory tract.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer.

IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.

NTP-2: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.

ACGIH A5: Not suspected as a human carcinogen: Not suspected as a human carcinogen on the basis of properly conducted epidemiologic studies in humans. Studies have sufficiently long follow-up, reliable exposure histories, sufficiently high dose, and adequate statistical power to conclude that exposure to the agent does not convey a significant risk of cancer to humans. Evidence suggesting a lack of carcinogenicity in experimental animals will be considered if it is supported by other relevant data.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

12 Ecological information:

General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

DOT regulations:



Hazard class:	4.1
Identification number:	UN3089
Packing group:	III
Proper shipping name (technical name):	METAL POWDER, FLAMMABLE, N.O.S.
Label	4.1

Land transport ADR/RID (cross-border)



ADR/RID class:	4.1 (F3) Flammable solids, self-reactive substances and solid desensitised explosives
Danger code (Kemler):	40
UN-Number:	3089
Packaging group:	III
Description of goods:	3089 METAL POWDER, FLAMMABLE, N.O.S. (iron/nickel)

Maritime transport IMDG:



IMDG Class: 4.1
UN Number: 3089
Label 4.1
Packaging group: III
Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 4.1
UN/ID Number: 3089
Label 4.1
Packaging group: III
Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.

UN "Model Regulation": UN3089, METAL POWDER, FLAMMABLE, N.O.S., 4.1, III

15 Regulations

Product related hazard informations:

Hazard symbols:

Xn Harmful
F Highly flammable

Risk phrases:

11 Highly flammable.
36/37 Irritating to eyes and respiratory system.
40 Limited evidence of a carcinogenic effect.
43 May cause sensitization by skin contact.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37 Wear suitable protective clothing and gloves.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
This product contains a chemical known to the state of California to cause cancer or reproductive toxicity.

Information about limitation of use:

For use only by technically qualified individuals.
This product contains nickel and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know act of 1986 and 40CFR372.

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.