

SAFETY DATA SHEET

Date Printed: 05/15/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifier: Nickel Copper Iron Manganese Powder

Product Code: NICU-FEMN-01-P

CAS Number: 11105-19-4

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351
Emergency telephone number:
+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Hazard description :

Xn Harmful

F Highly flammable

Information pertaining to particular dangers for man and environment

R 11 Highly flammable.

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 ~

FIRE ~

REACTIVITY ~

GHS label elements

Health (acute effects) 2

Flammability 3

Reactivity = 2



2.7/2- Flammable solid.

3.6/2 - Suspected of causing cancer.

3.4/1 - May cause an allergic skin reaction.

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/vapors/spray.

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 exposed or concerned: Get medical advice/attention.

Specific treatment (see label).

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO₂ , powder or water spray.

Storage:

Store locked up.

Disposal:

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization :

Description : (CAS# 11105-19-4)

Nickel (CAS# 7440-02-0), >63%

Copper (CAS# 7440-50-8), 28-34%

Iron (CAS# 7439-89-6), <2.5%

Manganese (CAS# 7439-96-5), <2%

Formula: 11105- 19- 4

Molecular Weight: 233 . 03

SECTION 4. FIRST AID MEASURES

If inhaled:

Supply fresh air and to be sure call for a doctor.

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed:

Seek immediate medical advice.

SECTION 5. FIREFIGHTING 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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Person-related safety precautions:
Use personal 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 official 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.

SECTION 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 .
Prevent formation of dust .
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 acids .
Do not store together with alkalies (caustic solutions) .
Store away from oxidizing agents .
Further information about storage conditions:
Keep container tightly sealed.
Store in cool , dry conditions in well-sealed containers .

SECTION 8. EXPOSURE CONTROLS/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:

Manganese, elemental

ACGIH TLV

Austria MAK

Belgium TWA

Denmark TWA

Finland TWA

& inorganic compounds (as Mn)

mg/m³

0.2

5

5

2.5

0.5

Hungary TWA

Germany MAK

Japan OEL

Korea TLV

Netherlands MAC-TGG

Norway TWA

Poland TWA

Russia

Sweden NGV

United Kingdom TWA

USA PEL

Copper

ACGIH TLV

Austria MAK

Belgium TWA

Denmark TWA

Finland TWA

France VME

Germany MAK

Hungary TWA

Korea TLV

Netherlands MAC-TGG

Norway TWA

Poland TWA

Russia

Sweden NGV

Switzerland MAK-W

United Kingdom TWA

USA PEL TWA

0.3 ; 0.6-STEL

0.55

0.3 (respirable dust)

0.2

1 ; 3 -MAC-K

2.5

0.3 ; 5-MAC

0.2-STEL (fume)
1 ; 2.5-TGV (respirable dust)
2.5 ; 5-TGV (total dust)
5
5-Ceiling
mg/m³
1 (dust, mist)
0.2 (fume)
1
0.1 (fume)
0.2 (fume)
1 (dust)
0.1
0.2 (fume)
1 (dust)
0.1 (fume)
1 (dust)
1 ; 2-STEL (dust)
0.1 (fume)
1 (dust)
0.2 ; 0.4-STEL (dust)
1 (dust, mist)
0.2 (fume)
1 (dust)
0.05
0.1 (fume)
0.1 ; 0.3-STEL (fume)
1 ; 2-STEL (dust)
1-STEL (dust)
0.2 (resp. dust)
1 (total dust)
0.1 ; 0.2-KZG-W (fume)
1 ; 1-KZG-W
0.2 (fume)
1 ; 2-STEL (dust, mist)
1 ; 3-STEL
0.1 (fume)
1 (dust, mist)
Nickel and inorganic compounds, as Ni
mg/m³
ACGIH TLV 1.5 ; AS (metal)
Austria
Denmark TWA
Finland TWA
France VME
Germany
Hungary
Japan OEL
Korea TLV
0.2 ; A1 (insoluble compounds)
0.1 ; A4 I soluble compounds)
Carcinogen
0.5
0.1 (skin) Carcinogen
1 ; C3-Carcinogen

Carcinogen
0.005-STEL ; Carcinogen (insoluble compounds)
1 ; 2B-Carcinogen
1.5
Netherlands MAC-TGG 1 ; Carcinogen
1 (insoluble compounds)
Poland TWA 0.25
Russia
Sweden NGV
Switzerland MAK-W
United Kingdom TWA
USA PEL
0.05-STEL
0.5 (dust)
0.5 ; Carcinogen
0.1
1
Additional information : No data
Personal protective equipment
Follow typical protective and hygienic practices for handling chemicals.
Keep away from foodstuffs , beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Breathing equipment : Use suitable respirator when high concentrations are present .
Protection of hands: Impervious gloves
Eye protection : Safety glasses
Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

General Information
Form : Powder
Color : Grey
Odor: Odorless
Melting point/ Melting range : No data available
Boiling point/ Boiling range : No data available
Sublimation temperature I start : No data available
Flash point : N/A
Flammability (solid, gas) Highly flammable .
Ignition temperature : No data available
Decomposition temperature : No data available
Explosion limits :
Lower : No data available
Upper : No data available
Vapor pressure : No data available
Density : No data available
Solubility in I Miscibility with
Water : Insoluble

SECTION 10. STABILITY AND REACTIVITY

Thermal decomposition I conditions to be avoided:

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

Materials to be avoided:

Acids

Bases

Oxidizing agents

Dangerous reactions

Reacts with strong alkali

Reacts with acids

Reacts with oxidizing agents

Dangerous products of decomposition:

Hydrogen

Metal oxide fume

SECTION 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:

Chronic exposure to manganese may cause impairment to the central nervous system . Symptoms include sluggishness, sleepiness, muscle weakness, loss of facial muscle control, edema, emotional disturbances, spastic gait and falling .

Copper compounds may be irritating to the skin, eyes and respiratory tract . They may cause metal fume fever, hemolysis of the red blood cells and injury to the liver, lungs, kidneys and pancreas. Ingestion may also cause vomiting, gastric pain, dizziness, anemia, cramps, convulsions, shock, coma and death.

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 AS : 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.

SECTION 12. ECOLOGICAL INFORMATION

General notes:

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

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

SECTION 13. DISPOSAL CONSIDERATIONS

Product:

Recommendation Consult official regulations to ensure proper disposal.

Uncleaned packagings :

Recommendation: Disposal must be made according to official regulations.

SECTION 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:

Danger code (Kemler):

UN-Number:

Packaging group:

Description of goods :

Maritime transport IMDG :

IMDG Class :

UN Number:

Label

Packaging group:

Proper shipping name :

Air transport ICAO-TI and IATA-DGR :

ICAO/IATA Class :

UN/ID Number:

Label

Packaging group:

Proper shipping name :

4 . 1 (F3) Flammable solids, self-reactive substances
and solid desensitised explosives

40

3089

III

3089 METAL POWDER, FLAMMABLE, N.O.S. (nickel copper
iron manganese)

4.1

3089

4.1

III

METAL POWDER, FLAMMABLE, N.O.S.

4.1
3089
4.1
III

METAL POWDER, FLAMMABLE, N.O.S.

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

SECTION 15. REGULATORY INFORMATION

Product related hazard informations :

Hazard symbols :

Xn Harmful

F Highly flammable

Risk phrases :

11 Highly flammable.

40 Limited evidence of a carcinogenic effect .

43 May cause sensitization by skin contact .

Safety phrases :

22 Do not breathe dust.

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.

This product contains copper and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

This product contains manganese 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

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.
