Heegermaterials

Safety Data Sheet
Nickel Copper Cobalt Iron Chromium

1. Product and Company Identification

Trade Name:	Nickel copper cobalt iron chromium
Chemical Formula:	Ni-Cu-Co-Fe-Cr
Recommended Use:	Scientific research and development
Manufacturer/Supplier:	Heeger Materials Inc.
Street:	230 Steele St Denver CO 80206 United States
Tel #:	Tel: 925-385-8104
24-Hour Emergency Contact:	800-424-9300 (US & Canada) +1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger

Hazard Statements:
H315 Causes skin irritation
H319 Causes serious eye irritation
H317: May cause an allergic skin reaction
H228: Flammable solid
H351: Suspected of causing cancer
H335: May cause respiratory irritation
H372: Causes damage to organs through prolonged or repeated exposure
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary Statements:
P260: Do not breathe dust/fume/gas/mist/vapours/spray
P280: Wear protective gloves/protective clothing/eye protection/face protection
P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
P284: Wear respiratory protection
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):	Powder	Bulk
Health:	1	1
Flammability:	3	0
Physical:	1	0

3. Composition

Chemical Family:	Metal alloy
Additional Names:	None
Nickel (Ni):	
Percentage:	0-100 wt%
CAS #:	7440-02-0
EC #:	231-157-5
Copper (Cu):	
Percentage:	0-100 wt%
CAS #:	7440-50-8
EC #:	231-159-6
Cobalt (Co):	
Percentage:	0-100 wt%
CAS #:	7440-48-4
EC #:	231-158-0
Iron (Fe):	
Percentage:	0-100 wt%
CAS #:	7439-89-6
EC #:	231-096-4
Chromium (Cr):	
Percentage:	0-100 wt%
CAS #:	7440-47-3
EC #:	231-157-5

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion:	Seek medical attention.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

5. Firefighting Measures

Flammability:	Flammable as powder only
Extinguishing Media:	Do not use water for metal fires – use CO_2, sand, extinguishing powder.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	0.1 mg/m^3 as Co, long-term value
Threshold Limit Value:	0.02 mg/m^3 as Co, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Metallic grey
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	N/A
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	N/A

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Halogens, Acids, Oxidizing agents
Incompatible Conditions:	Protect against electrostatic charges
Hazardous Decomposition Products:	Metal oxide fume, Iron oxides, Nickel oxides, Copper oxides

11. Toxicological Information

Potential Health Effects:

Eyes:	Causes serious eye damage
Skin:	Causes irritating effect
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Signs & Symptoms: N/A

Aggravated Medical Conditions: N/A

Median Lethal Dose: 6171 mg/kg for rat by mouth
>5000 mg/kg for mouse by mouth

Carcinogen:

IARC-2B: Possibly carcinogenic to humans: limited evidence in human in the absence of sufficient evidence in experimental animals.
ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by routes of administration, at sites, of histologic types, or by mechanisms not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or level of exposure.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.
EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer
NTP-R: Reasonably anticipated to be a carcinogen, limited evidence of carcinogenicity from epidemiologic studies.
IARC-3: Not classifiable as to carcinogenicity to humans.
(Inhalation)EPA-K: Known human carcinogens
(Oral)EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.
(Oral)EPA-CBD: Carcinogenic potential cannot be determined.
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 dost, 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.

12. Ecological Information

Aquatic Toxicity:	High
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	Very toxic for aquatic organism. May cause long lasting harmful effect on aquatic life. Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach any water sources. Danger to drinking water if even extremely small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Avoid transfer into the environment. Toxic to aquatic life.

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous:	Hazardous as powder only.

Hazard Class:	4.1 Flammable solids, self-reactive substances and solid desensitized explosives
Packing Group:	III
UN Number:	UN3089
Proper Shipping Name:	Metal powders, flammable, n.o.s. (Nickel copper cobalt iron chromium)

15. Regulatory Information

Sec 302 Extremely Hazardous:	No
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	Components

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

Document Last Revised: 07/01/2022