
1. Product and Company Identification

Trade Name: Nickel Cobalt
Chemical Formula: NiCo
Recommended Use: Scientific research and development

Manufacturer/Supplier: Stanford Advanced Materials
Address: 23661 Birtcher Dr., Lake Forest, CA 92630
U.S.A.

Tel #: (949) 407-8904

24-Hour Emergency Contact: (949) 407-8904
(This telephone number is available 24 hours per day, 7 days per week.)

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H228: Flammable solid
H317: May cause an allergic skin reaction
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H351: Suspected of causing cancer
H372: Causes damage to the lung, the kidneys, and the liver through prolonged or repeated exposure.

Precautionary Statements: P210: Keep away from heat/sparks/flame. No smoking.
P240: Ground/bond container and receiving equipment.
P260: Do not breathe dust/fume/gas/mist/vapors/spray
P280: Wear protective gloves/protective clothing/eye protection/face Protection
P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P363: Wash contaminated clothing before reuse
P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

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

3. Composition

Chemical Family:	Alloy
Additional Names:	N/A
Nickel (Ni):	
Percentage:	0-100 wt%
CAS #:	7440-02-0
EC #:	231-111-4
Cobalt (Co):	
Percentage:	0-100 wt%
CAS #:	7440-48-4
EC #:	231-158-0

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Supply fresh air and if required, provide artificial respiration. Seek medical attention.
Ingestion:	Seek medical attention.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Seek immediate medical advice.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Consult a doctor.

5. Firefighting Measures

Flammability:	Flammable as powder
Extinguishing Media:	Do not use water for metal fires – use 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:	1 mg/m ³ as Ni, ceiling limit value 0.1 mg/m ³ as Co, for metal dust and fume, long-term value
Threshold Limit Value:	0.015 mg/m ³ as Ni, respirable, long-term value 1.5 mg/m ³ as Ni, inhalable fraction, long-term 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	N/A
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
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:	Acids, Oxidizing agents
Incompatible Conditions:	Halogens, Electrostatic charges
Hazardous Decomposition Products:	Nickel oxides, Metal oxide fume

11. Toxicological Information

Potential Health Effects:	
Eyes:	May cause irritation
Skin:	May cause irritation or allergic reaction
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	Causes damage to the lung, the kidneys, and the liver through prolonged or repeated exposure
Signs & Symptoms:	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	6171 mg/kg for rat by mouth for Co
Carcinogen:	Suspected of causing cancer IARC-2B, NTP-R, ACGIH-A5

12. Ecological Information

Aquatic Toxicity:	Moderate
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	Do not allow to reach ground water

13. Disposal Considerations

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

14. Transportation Data

Hazardous:	Hazardous as powder only
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Hazard Class:	4.1 Flammable solids
Packing Group:	II
UN Number:	UN3089
Proper Shipping Name:	Metal powders, flammable, n.o.s. (Nickel Cobalt)

15. Regulatory Information

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

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:	08/16/2022
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