



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Cobalt Chromium Iron Nickel

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1. Product and Company Identification

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Trade Name: Cobalt Chromium Iron Nickel  
Chemical Formula: CoCrFeNi  
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.  
Street: 37 Ramland Road  
City: Orangeburg  
State: New York  
Zip Code: 10962  
Country: USA  
Tel #: 855-587-2436 / 855-lts-chem

24-Hour Emergency Contact: 800-424-9300 (US & Canada)  
+1-703-527-3887 (International)

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2. Hazards Identification

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Signal Word:

Warning



Hazard Statements:

H228: Flammable solid  
H251: Self-heating; may catch fire  
H302: Harmful if swallowed  
H317: May cause an allergic skin reaction  
H319: Causes serious eye irritation  
H330: Fatal if inhaled  
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H335: May cause respiratory irritation  
H341: Suspected of causing genetic defects  
H350: May cause cancer  
H360: May damage fertility or the unborn child  
H372: Causes damage to organs through prolonged or repeated exposure  
H400: Very toxic to aquatic life with long lasting effects

Precautionary Statements:

P202: Do not handle until all safety precautions have been read and understood  
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking  
P235+P410: Keep cool. Protect from sunlight  
P240: Ground/bond container and receiving equipment  
P241: Use explosion-proof electrical/ventilating/light/equipment  
P260: Do not breathe dust/fume/gas/mist/vapors/spray  
P264: Wash face, hands and any exposed skin thoroughly after handling  
P270: Do not eat, drink or smoke when using this product  
P271: Use only outdoors or in a well-ventilated area

P272: Contaminated work clothing should not be allowed out of the workplace  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P281: Use personal protective equipment as required  
P284: Wear respiratory protection  
P301+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell  
P285: In case of inadequate ventilation wear respiratory protection  
P302+P350: IF ON SKIN: Gently wash with plenty of soap and water  
P304+P340+P310: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing  
P308+P313: IF exposed or concerned: Get medical advice/attention  
P333+P313: If skin irritation or a rash occurs: Get medical advice/attention  
P337+P313: If eye irritation persists get medical advice/attention  
P363: Wash contaminated clothing before reuse  
P370+P378: In case of fire: Use suitable extinguishing media for extinction  
P403+P233: Store in a well-ventilated place. Keep container tightly closed  
P405: Store locked up  
P407: Maintain air gap between stacks/pallets  
P420: Store away from other materials  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):

Health:	4
Flammability:	3
Physical:	1




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### 3. Composition

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Chemical Family:	Alloy
Additional Names:	None
Cobalt (Co):	
Percentage:	0-100 wt%
CAS #:	7440-48-4
EC #:	231-158-0
Chromium (Cr):	
Percentage:	0-100 wt%
CAS #:	7440-47-3
EC #:	231-157-5
Iron (Fe):	
Percentage:	0-100 wt%
CAS #:	7439-89-6
EC #:	231-096-4
Nickel (Ni):	
Percentage:	0-100 wt%
CAS #:	7440-02-0
EC #:	231-111-4

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#### 4. First Aid Procedures

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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. Immediately call a poison or doctor/physician.
Ingestion:	Give one to two glasses of water. Never induce vomiting or give anything by mouth to an unconscious person. Call a poison or doctor/physician.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Immediate medical attention required.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention.

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#### 5. Firefighting Measures

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Flammability:	Flammable
Extinguishing Media:	Do not use water, foam or carbon dioxide. Use sand, dry powder, soda ash or graphite 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.

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#### 6. Accidental Release Measures

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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.

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#### 7. Handling and Storage

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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.

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#### 8. Exposure Controls and Personal Protection

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Permissible Exposure Limits:	0.05 mg/m <sup>3</sup> as Co, long-term value 1 mg/m <sup>3</sup> as Cr, long-term value 1 mg/m <sup>3</sup> as Ni, long-term value
Threshold Limit Value:	0.02 mg/m <sup>3</sup> as Co, long-term value 0.5 mg/m <sup>3</sup> as Cr, long-term value 1.5 mg/m <sup>3</sup> as Ni, long-term value

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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	Grey
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	N/A
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:	Strong oxidizing agents, Acids, Flourine, Oxygen, Nitriles, Aldehydes, Halogens, Halogenated agents
Incompatible Conditions:	Excess heat. Exposure to air. Exposure to moist air or water. Avoid dust formation.
Hazardous Decomposition Products:	Metal oxide fume

## 11. Toxicological Information

Potential Health Effects:	
Eyes:	Causes serious eye irritation
Skin:	May cause an allergic skin reaction
Ingestion:	Harmful if swallowed
Inhalation:	Fatal if inhaled
Chronic:	May cause cancer. May damage fertility or the unborn child.
Signs & Symptoms:	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Aggravated Medical Conditions:	Causes damage to organs through prolonged or repeated exposure.
Median Lethal Dose:	LD50 Oral: 6171 mg/kg for rat as Co LD50 Oral: 30 g/kg for rat as Fe LD50 Oral: >9000 mg/kg for rat as Ni
Carcinogen:	IARC: Group 2B - Possibly Carcinogenic to Human. there is limited evidence of carcinogenicity in humans and sufficient evidence. of carcinogenicity in experimental animals. (Co, Ni) NTP: Reasonably Anticipated (Co, Ni) ACGIH: Group A3 - Animal Carcinogen. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure. (Co)

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## 12. Ecological Information

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Aquatic Toxicity:	Toxic
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not empty into drains. Harmful to aquatic organisms. May cause long-term adverse effects in aquatic environment.

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## 13. Disposal Considerations

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

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## 14. Transportation Data

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Hazardous: Hazardous as powder only



Hazard Class:	4.1 Flammable Solids
Packing Group:	III
UN Number:	UN3089
Proper Shipping Name:	Metal powders, flammable, n.o.s. (Cobalt Chromium Iron Nickel)

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## 15. Regulatory Information

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

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## 16. Other Information

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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.

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