1. Product and Company Identification

Trade Name: Copper nickel
Chemical Formula: CuNi
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)

2. Hazards Identification

Signal Word: Danger

Hazard Statements:
H228: Flammable solid
H317: May cause an allergic skin reaction
H319: Causes serious eye irritation
H335: May cause respiratory irritation
H351: Suspected of causing cancer
H372: Causes damage to organs through prolonged or repeated exposure

Precautionary Statements:
P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
P260: Do not breathe dust/fume/gas/mist/vapours/spray
P363: Wash contaminated clothing before reuse
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

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

<table>
<thead>
<tr>
<th>Chemical Family</th>
<th>Metal alloy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Names</td>
<td>None</td>
</tr>
</tbody>
</table>

Copper (Cu):
- **Percentage:** 0-100 wt%
- **CAS #:** 7440-50-8
- **EC #:** 231-159-6

Nickel (Ni):
- **Percentage:** 0-100 wt%
- **CAS #:** 7440-02-0
- **EC #:** 231-111-4

### 4. First Aid Procedures

<table>
<thead>
<tr>
<th>General Treatment</th>
<th>Seek medical attention if symptoms persist.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Treatment</td>
<td>None</td>
</tr>
<tr>
<td>Important Symptoms</td>
<td>None</td>
</tr>
</tbody>
</table>

**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:** Non-flammable, except as powder

**Extinguishing Media:** Do not use water for metal fires – use 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

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permissible Exposure Limits:</td>
<td>0.1 mg/m³ as Cu, metal fume, long-term value</td>
</tr>
<tr>
<td></td>
<td>1 mg/m³ as Cu, metal fumes and mists, long-term value</td>
</tr>
<tr>
<td>Threshold Limit Value:</td>
<td>0.2 mg/m³ as Cu, metal fume, long-term value</td>
</tr>
<tr>
<td></td>
<td>1 mg/m³ as Cu, metal fumes and mists, long-term value</td>
</tr>
<tr>
<td>Special Equipment:</td>
<td>None</td>
</tr>
<tr>
<td>Respiratory Protection:</td>
<td>Use a respirator with type P100 (USA) or P3 (EN143) cartridges as a</td>
</tr>
<tr>
<td></td>
<td>backup to engineering controls. Risk assessment should be performed to</td>
</tr>
<tr>
<td></td>
<td>determine if air-purifying respirators are appropriate. Only use</td>
</tr>
<tr>
<td></td>
<td>equipment tested and approved under appropriate government standards.</td>
</tr>
<tr>
<td>Protective Gloves:</td>
<td>Nitrile rubber, NBR 0.11mm thick.</td>
</tr>
<tr>
<td>Eye Protection:</td>
<td>Safety glasses or goggles</td>
</tr>
<tr>
<td>Body Protection:</td>
<td>Protective work clothing. Wear close-toed shoes and long Sleeves/Pants.</td>
</tr>
</tbody>
</table>

9. Physical and Chemical Characteristics

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Silver</td>
</tr>
<tr>
<td>Form</td>
<td>Powder, Granules, Pellets, Sputtering target, Custom parts</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Melting Point</td>
<td>1083-1455 °C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>N/A</td>
</tr>
<tr>
<td>Density</td>
<td>N/A</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>N/A</td>
</tr>
</tbody>
</table>

10. Reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable under recommended storage conditions</td>
</tr>
<tr>
<td>Reacts With</td>
<td>Acids, Halogens, Oxidizing agents</td>
</tr>
<tr>
<td>Incompatible Conditions:</td>
<td>Protect against electrostatic charges</td>
</tr>
<tr>
<td>Hazardous Decomposition Products:</td>
<td>Metal oxide fume, Nickel oxides, Copper oxides</td>
</tr>
</tbody>
</table>
### 11. Toxicological Information

**Potential Health Effects:**

- **Eyes:** Causes serious eye damage
- **Skin:** May cause irritation
- **Ingestion:** May cause irritation
- **Inhalation:** May cause irritation
- **Chronic:** N/A

**Signs & Symptoms:** N/A

**Aggravated Medical Conditions:** N/A

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

**Carcinogen:**

- The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.
- NTP-R: Reasonably anticipated to be a carcinogen, limited evidence of carcinogenicity from epidemiologic studies.

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.

### 12. Ecological Information

**Aquatic Toxicity:** High

**Persistent Bioaccumulation Toxicity:** No

**Very Persistent, Very Bioaccumulative:** No

**Notes:**

- 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. (Copper nickel)

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.

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