

**MATERIAL SAFETY DATA SHEET****MSDS NO. 37  
SILVER PLATED NEWALOY 68**

PREPARATION DATE: 04/26/2004

REVISION DATE: 04/26/2004

**I. PRODUCT AND MANUFACTURER IDENTIFICATION****MANUFACTURER'S NAME:** NEW ENGLAND WIRE TECHNOLOGIES CORP.**ADDRESS:** 130 North Main St., Lisbon, NH 03585**TELEPHONE:** (603) 838-6625**MATERIAL IDENTIFICATION:** Silver Plated NEWALOY 68**SYNONYMS:** Silver Plated Copper Alloy Wire and Cable  
Products; Silver Plated Copper Alloy Material**PRODUCT DESCRIPTION:** Round and flattened Copper alloy with silver coating, fabricated into wire products by mechanical means (such as bending, coiling, stranding, braiding, weaving, etc.)**II. HAZARDOUS INGREDIENTS**

Ingredient	CAS No.	Amount	Form	Exposure Limits		
				OSHA-PEL 8-hr TWA (mg/m <sup>3</sup> )	ACGIH-TLV 8-hr TWA (mg/m <sup>3</sup> )	ACGIH STEL (mg/m <sup>3</sup> )
Copper <sup>(1)</sup>	7440-50-8	> 87.5%	Fume	0.1	0.2	--
			Dust	1.0	1.0	--
Silver <sup>(1)</sup>	7440-22-4	10%	Metal	0.01	0.1	--
			Compounds	--	0.01	--
Chromium <sup>(1) (2)</sup>	7440-47-3	.5 - 1.5%	Metal	1.0	0.5	--
			Compounds	1.0	0.5	--
Zirconium	7440-67-7	< 1 %	Compounds	5	5	10

(1) Indicates the ingredient is a SARA Title III, Section 313 Listed Chemical.

(2) Indicates the ingredient has been identified as a potential human carcinogen.

**III. PHYSICAL DATA****Water Solubility:** Insoluble**Vapor Pressure:** Not Applicable**Evaporation Rate:** Not Applicable**% Volatile:** Negligible**Water Reactive:** Will not react**Appearance:** Round and flattened wire products with silver color**Odor:** None

#### IV. FIRE AND EXPLOSION DATA

<b>Special Precautions:</b>	Products as manufactured are nonflammable; however, fine copper and chromium powders are a moderate fire hazard. Sparks from grinding or welding can ignite flammable liquids, vapors and combustible solids.
<b>Fire Fighting Procedures:</b>	<b>DO NOT USE WATER, MOIST SAND, OTHER LIQUIDS, FOAM OR HALOGENATED EXTINGUISHING AGENTS ON BURNING OR MOLTEN METAL.</b> Avoid spreading powder or dust fires. Dust may be explosive. Use extinguishing media suitable for surrounding fire. Use NIOSH-approved self-contained breathing apparatus (SCBA).
<b>Unusual Fire and Explosion Hazards:</b>	Never put water or liquids on molten metal - it will explode. Copper and Chromium can react violently with acetylene, acetylene compounds, ammonium nitrate, bromates, chlorates, iodates, halogens, chlorine trifluoride, $\text{ClF}_3$ , $\text{Cl}_2 + \text{OF}_0$ , ethylene oxide, hydrogen peroxide, hydrazine mononitrate, hydrazoic acid, hydrogen sulfide, lead nitride, potassium, sodium nitride and sodium peroxide. This material or its dust can react with strong oxidizing agents, potentially liberating explosive hydrogen gas.

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#### V. REACTIVITY DATA

<b>Stability:</b>	( <input checked="" type="checkbox"/> STABLE <input type="checkbox"/> UNSTABLE) under normal conditions.
<b>Conditions To Avoid:</b>	In addition to those hazards listed in Section IV above, at high temperatures this product may release toxic metal fumes. Molten metal may react violently with water.
<b>Incompatibility:</b>	<p><b>Copper</b> - Reacts violently and is incompatible with acetylene, chlorine, chlorates, sodium azide, halogens, halogenates, peroxides, hydrogen sulfide, bromates, hydrozoic acid, iodates, chloride, potassium oxide, ammonium nitrate, phosphorous, lead azide, fluorine, ethylene oxide, hydrazic acid, acetylinic compounds, 3-bromopropene, <math>\text{ClF}_3</math>, hydrazine mononitrate, oxygen difluoride, oxidizers, alkalis, alkalines, 1-bromo 2-propyne. Avoid contact with acids. Burns spontaneously in chlorine gas. Magnesium and copper dust are incompatible. Before remelting material, it must be free of moisture.</p> <p><b>Chromium</b> - Reacts violently with nitric oxide, potassium chlorate, lithium, ammonium nitrate, hydrogen peroxide and sulfur dioxide. Incompatible with oxidizers and alkalis. Chromium powder will explode spontaneously in air. Dust will burn or explode in contact with ammonium nitrate.</p> <p><b>Silver</b> - Incompatible with acetylene, ammonia, hydrogen peroxide, bromo-azide, chlorine, trifluoride, ethyleneimine oxalic acid, tartaric acid, acetylene compounds, aziridine, bromine azide 3-bromopropyne, carboxylic acids, copper and ethyleneglycol, electrolytes and zinc, ethanol and nitric acid, ethylene oxide, ethyl hydroperoxide, ethyleneimine, iodoform, nitric acid, ozonides, peroxomonosulfuric acid, peroxyformic acid.</p> <p><b>Zirconium</b> - Incompatible with hydro fluoric and hydrofluoric-nitric acids, nitryl fluoride, <math>\text{FNO}_2</math>, potassium nitrate, oxidizers, fluorine, chlorine, bromine, iodine and halo-carbon, carbon tetrachloride, carbon tetrafluoride and freons.</p> <p><b>See also Section IV.</b></p>
<b>Hazardous Polymerization:</b>	Will not occur.

<b>Hazardous Decomposition Products:</b>	Toxic Metal Fumes; Fumes and gasses from welding, brazing and high temperature cutting may contain constituents different from those listed in Section II. These constituents may include oxides of the metals, chromates, fluorides, carbon monoxide, carbon dioxide, ozone and nitrogen oxides.
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## VI. ENVIRONMENTAL INFORMATION

<b>Spill Response:</b>	Transfer solid into container using a clean, dry shovel. Minimize dust. Cover or clean up outdoor spills promptly to prevent exposure to rainfall, which may result in storm water pollution.
<b>Waste Disposal:</b>	Wire products contain commodity metals and therefore are normally collected for recovery value; however, should waste disposal be deemed necessary, follow all applicable local, state and federal regulations.

## VII. HEALTH HAZARD INFORMATION

### WARNING!

Welding, brazing, melting, grinding or high temperature cutting may release dust, fumes or gases with potentially adverse effects. Do not inhale dust, mist or fumes generated by use or handling of this product. Always wear appropriate personnel protective equipment (PPE).

Dust, fumes or gases released from this product may cause nose, throat, skin and/or eye irritation, respiratory and kidney diseases, or neurological damage. Welding gases or lack of oxygen can cause loss of consciousness or death.

<b>Exposure Limits:</b>	Exposure limits for specific hazardous ingredients are listed in Section II.
<b>Effects of Overexposure:</b>	Specialty fine wire is generally not considered hazardous in the form shipped. However, If your process involves grinding, melting, welding, cutting or any other process that causes a release of dust, fumes or gas, the following adverse effects may result:
<b>Short Term (Acute) Exposure:</b>	Eye, skin and/or respiratory tract irritation; "Metal Fume Fever" (characterized by a sweet or metallic taste in the mouth, irritation of the throat, coughing, shortness of breath, chest pain, nausea, vomiting, weakness, fatigue, muscle and joint pain, chills, sweating and fever); loss of consciousness and/or death due to asphyxiation by welding gases or lack of oxygen).
<b>Long Term (Chronic) Exposure:</b>	Skin sensitization, kidney dysfunction, neurological damage and respiratory disease. Cadmium may cause kidney dysfunction, emphysema and bronchitis, and has been identified as a possible carcinogen. May cause skin dysfunctions, including discoloration.
<b>Medical Conditions Aggravated By Exposure:</b>	Some workers may be affected by pre-existing respiratory or allergic conditions that predispose these workers to more severe symptoms than the general population. Copper toxicity may result from exposure by inhalation or ingestion of copper to persons with Wilson's Disease or G6PD Deficiency (where the individual absorbs, retains and stores copper excessively). Exposure to cadmium may exacerbate existing kidney and respiratory conditions.

**Symptoms of Overexposure:** Chills, fever, aching muscles, dry mouth and throat, headache, nausea, diarrhea, epigastric pain, vomiting, dizziness, jaundice and general debility/weakness.

**Routes of Exposure:** Inhalation, Skin, Ingestion, Eye Contact. Under normal conditions, the solid alloy presents no significant health hazards. Processing of the alloy by dust or fume producing operations (grinding, buffing, heating, welding, etc.) may result in the potential for exposure to airborne metal particulates or fumes. Breathing these fumes or dusts may present potentially significant health hazards.

#### **SUGGESTED FIRST AID**

**Eye Contact:** Flush well with running water, holding eyelids open, to remove particulate. Consult a physician.

**Skin Contact:** Vacuum off excess dust and/or remove contaminated clothing. Wash affected area thoroughly with soap and water. Seek medical attention if symptoms persist.

**Inhalation:** Remove to fresh air and obtain prompt medical attention. Metal fume fever may be treated symptomatically. Administer CPR if needed. Consult a physician.

**Ingestion:** Seek medical attention if large quantities of material have been ingested. Never administer liquids to an unconscious person.

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#### **VIII. PRECAUTIONARY INFORMATION AND CONTROL MEASURES**

**Eye Protection:** Use of safety glasses is recommended at all times. Use of appropriate face shields is recommended when cutting, grinding or welding.

**Skin Protection:** Protective gloves are recommended when cutting, grinding or welding.

**Recommended Ventilation:** General ventilation is recommended. Local exhaust is recommended if dusts, mists or fumes are being generated.

**Respiratory Protection:** If exposure is likely to exceed the limits specified in Section II, the use of a NIOSH-approved respirator with high efficiency particulate air (HEPA) filter or air supply may be necessary.

**Storage and Handling:** Do not store near acetylene, chlorine, hydrogen peroxide, acids, bases, oxidizers or any incompatible materials identified in Sections IV and V.

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#### **IX. ADDITIONAL INFORMATION**

**California Proposition 65:** This product contains the following chemical or chemicals considered by the State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) to cause cancer or reproductive toxicity:

**Chromium (CAS # 7440-47-3)**

**SARA Title III Notification:** This product contains the following toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

**Chromium (CAS # 7440-47-3)**

**Copper (CAS # 7440-50-8)**

**Silver (CAS # 7440-22-4)**

**CERCLA:** The Comprehensive Environmental Response, Compensation and Liability Act of 1990, Section 102 (40 CFR Part 302) requires that any release into the environment of the hazardous substances contained in a product in excess of the reportable quantity in any 24 hour period must be immediately reported to the National Response Center at 1 (800) 424-8802. Reporting is not required under certain circumstances, such as a federally permitted release or the release of certain metal solid particles with a diameter larger than 100 micrometers. Reportable quantities for hazardous chemicals contained in this product are listed below:

<b>Chemical</b>	<b>CAS No.</b>	<b>Amount</b>	<b>Reportable Qty.</b>
Copper	7440-50-8	> 88%	5,000 lbs.
Chromium	7440-47-3	0.5 - 1.5%	5,000 lbs.
Silver	7440-22-4	10%	1,000 lbs.

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