



Safety Data Sheet

Issue Date: 17-Sep-2008

Revision Date: 5-Sep-2014

Version 1.1

1. IDENTIFICATION

Product Identifier

Product Name Copper Clad Steel Wire

Other means of identification

SDS # 00002

Recommended use of the chemical and restrictions on use

Recommended Use Data and signal wire.

Details of the supplier of the safety data sheet

Supplier Address

Copperweld Bimetallic Products
Fayetteville Operation
254 Cotton Mill Road
Fayetteville, TN 37334
1-931-433-7177

Emergency Telephone Number

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Reddish metallic solid
copper cladding over gray solid steel core
wire

Physical State Solid

Classification

This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

Hazards Not Otherwise Classified (HNOC)

None known

Other Hazards

Prolonged or repeated exposure to copper can discolor skin and hair and irritate the skin
May cause metal fume fever

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Iron	7439-89-6	57.3
Copper	7440-50-8	40
Manganese	7439-96-5	1
Carbon	7440-44-0	1
Silicon	7740-21-3	0.5
Nickel	7440-02-0	0.1
Chromium	7440-47-3	0.1
Lead	7439-02-1	0.001

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin Contact	Wash off immediately with soap and plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. (Get medical attention immediately if symptoms occur.).
Inhalation	May cause metal fume fever. Remove to fresh air.
Ingestion	Not an expected route of exposure. Call a physician immediately.

Most important symptoms and effects

Symptoms	Not determined.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protection recommended in Section 8.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials Oxidizers. Alkali. Acetylene. Phosphorus. Reacts violently with ammonium nitrate, bromates, iodates, chlorates, ethylene oxide, hydrozoic acid, potassium oxide, dimethyl sulfoxide plus trichloroacetic acid, hydrogen peroxide, sodium peroxide, sodium azide, sulfuric acid, hydrogen sulfide plus air, and lead azide. Copper ignites on contact with chlorine, fluorine (above 121 C), chlorine trifluoride, and hydrazinum nitrate (above 70 C).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Copper 7440-50-8	TWA: 0.2 mg/m ³ fume TWA: 1 mg/m ³ Cu dust and mist	TWA: 0.1 mg/m ³ fume TWA: 1 mg/m ³ dust and mist (vacated) TWA: 0.1 mg/m ³ Cu dust, fume, mist	IDLH: 100 mg/m ³ dust, fume and mist IDLH: 100 mg/m ³ Cu dust and mist TWA: 1 mg/m ³ dust and mist TWA: 0.1 mg/m ³ fume TWA: 1 mg/m ³ Cu dust and mist
Manganese 7439-96-5	TWA: 0.2 mg/m ³ TWA: 0.2 mg/m ³ Mn	(vacated) TWA: 1 mg/m ³ fume (vacated) STEL: 3 mg/m ³ fume (vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ fume Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ fume TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ STEL: 3 mg/m ³ Mn
Chromium 7440-47-3	TWA: 0.5 mg/m ³	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 250 mg/m ³ TWA: 0.5 mg/m ³
Nickel 7440-02-0	TWA: 1.5 mg/m ³ inhalable fraction	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 10 mg/m ³ IDLH: 10 mg/m ³ Ni TWA: 0.015 mg/m ³ TWA: 0.015 mg/m ³ except Nickel carbonyl Ni

Appropriate engineering controls

Engineering Controls During welding, grinding, and/ or burning proper general and/ or local ventilation may be required. Special ventilation provisions may be required to avoid explosion hazards.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Use chemical safety goggles and/or full-face shield where dusting is possible.

Skin and Body Protection Wear suitable protective clothing.

Respiratory Protection If dust or fume is expected, use approved dust filter respirator or dust mask, designed for use where concentration exceeds exposure limits.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State Solid

Appearance	Reddish metallic solid copper cladding over gray solid steel core wire	Odor	Not determined
Color	Mild steel	Odor Threshold	Not determined
Property	Values	Remarks • Method	
pH	Not determined		
Melting Point/Freezing Point	1082.8 °C		
Boiling Point/Boiling Range	2595 °C		
Flash Point	Not determined		
Evaporation Rate	Not determined		
Flammability (Solid, Gas)	Not determined		
Upper Flammability Limits	Not determined		
Lower Flammability Limit	Not determined		
Vapor Pressure	Not determined		
Vapor Density	Not determined		
Specific Gravity	Not determined		
Water Solubility	Insoluble in water		
Solubility in other solvents	Not determined		
Partition Coefficient	Not determined		
Auto-ignition Temperature	Not determined		
Decomposition Temperature	Not determined		
Kinematic Viscosity	Not determined		
Dynamic Viscosity	Not determined		
Explosive Properties	Not determined		
Oxidizing Properties	Not determined		
Density	0.29 lbs/cubic inch		

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

Keep out of reach of children.

Incompatible Materials

Oxidizers. Alkali. Acetylene. Phosphorus. Reacts violently with ammonium nitrate, bromates, iodates, chlorates, ethylene oxide, hydrozoic acid, potassium oxide, dimethyl sulfoxide plus trichloroacetic acid, hydrogen peroxide, sodium peroxide, sodium azide, sulfuric acid, hydrogen sulfide plus air, and lead azide. Copper ignites on contact with chlorine, fluorine (above 121 C), chlorine trifluoride, and hydrazinum nitrate (above 70 C).

Hazardous Decomposition Products

Extreme temperatures can generate metal fume.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Welding or burning of material will generate fumes Overexposure to fumes may cause a flu-like condition called metal fume fever Prolonged inhalation overexposure to dust or fume may result in the accumulation of iron oxide in the lung, a condition with few or no symptoms
Eye Contact	Not determined.
Skin Contact	Not determined.
Inhalation	Not determined.
Ingestion	Not determined.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Iron 7439-89-6	= 984 mg/kg (Rat)	-	-
Manganese 7439-96-5	= 9 g/kg (Rat)	-	-
Carbon 7440-44-0	> 10000 mg/kg (Rat)	-	-
Nickel 7440-02-0	> 9000 mg/kg (Rat)	-	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested.

Chemical Name	ACGIH	IARC	NTP	OSHA
Nickel 7440-02-0		Group 2B	Known Reasonably Anticipated	X
Chromium 7440-47-3		Group 3		

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Iron 7439-89-6		13.6: 96 h Morone saxatilis mg/L LC50 static 0.56: 96 h Cyprinus carpio mg/L LC50 semi-static		

Copper 7440-50-8	0.0426 - 0.0535: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.031 - 0.054: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	0.0068 - 0.0156: 96 h Pimephales promelas mg/L LC50 0.3: 96 h Pimephales promelas mg/L LC50 static 0.2: 96 h Pimephales promelas mg/L LC50 flow-through 0.052: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 1.25: 96 h Lepomis macrochirus mg/L LC50 static 0.3: 96 h Cyprinus carpio mg/L LC50 semi-static 0.8: 96 h Cyprinus carpio mg/L LC50 static 0.112: 96 h Poecilia reticulata mg/L LC50 flow-through		0.03: 48 h Daphnia magna mg/L EC50 Static
Nickel 7440-02-0	0.18: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.174 - 0.311: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	100: 96 h Brachydanio rerio mg/L LC50 1.3: 96 h Cyprinus carpio mg/L LC50 semi-static 10.4: 96 h Cyprinus carpio mg/L LC50 static		100: 48 h Daphnia magna mg/L EC50 1: 48 h Daphnia magna mg/L EC50 Static

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Not determined

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods**Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations. Material should be saved for recovery and/or recycling if possible.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Chromium 7440-47-3		Included in waste streams: F032, F034, F035, F037, F038, F039	5.0 mg/L regulatory level	
Nickel 7440-02-0		Included in waste streams: F006, F039		

Chemical Name	California Hazardous Waste Status
Copper 7440-50-8	Toxic
Manganese 7439-96-5	Ignitable powder
Nickel 7440-02-0	Toxic powder Ignitable powder
Chromium 7440-47-3	Toxic Corrosive Ignitable

14. TRANSPORT INFORMATION

Note	Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.
DOT	Not regulated
IATA	Not regulated
IMDG	Not regulated

15. REGULATORY INFORMATION

International Inventories

Not determined

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Copper 7440-50-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Nickel 7440-02-0	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
Chromium 7440-47-3	5000 lb 10 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ RQ 10 lb final RQ RQ RQ 4.54 kg final RQ

SARA 313

Not determined

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Copper - 7440-50-8	7440-50-8	40	1.0
Manganese - 7439-96-5	7439-96-5	1	1.0
Chromium - 7440-47-3	7440-47-3	0.1	1.0
Nickel - 7440-02-0	7440-02-0	0.1	0.1

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper 7440-50-8 (40)		X	X	
Nickel 7440-02-0 (0.1)		X	X	
Chromium 7440-47-3 (0.1)		X	X	

US State Regulations

Chemical Name	California Proposition 65
Nickel - 7440-02-0	Carcinogen

U.S. State Right-to-Know Regulations

Not determined

Chemical Name	New Jersey	Massachusetts	Pennsylvania

Copper 7440-50-8	X	X	X
Manganese 7439-96-5	X	X	X
Chromium 7440-47-3	X	X	X
Nickel 7440-02-0	X	X	X

16. OTHER INFORMATION

NFPA**Health Hazards****Flammability****Instability****Special Hazards****HMIS**

Not determined

Not determined

Not determined

Not determined

Health Hazards**Flammability****Physical Hazards****Personal Protection**

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Issue Date:

17-Sep-2008

Revision Date:

5-Sep-2014

Revision Note:

New company logo

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet