GROUP OF COMPANIES

Safety Data Sheet

Section 1: Identification

1.1 Product identifier

Product Name : **Copper Alloy Wire (All Grades)**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified Uses : Industrial and commercial

1.3 Details of the supplier of the safety data sheet

Manufacturer : Central Wire Industries Ltd.
1 North Street
Perth, Ontario K7H 2S2 Canada
http://www.centralwire.com

Manufacturing Locations
US Locations: Dumas, AR; Fond du Lac, WI; Houston, TX; Michigan City, IN; Milton, FL; Naples, FL: Perris, CA, Pomfret, CT; Union, IL
Canada Locations: Calgary, AB, Perth, ON
United Kingdom Location: Rotherham, South Yorkshire, England

1.4 **Emergency telephone number**

Manufacturer : 613-326-3006

Section 2: Hazard Identification

2.1 **Classification of the substance or mixture**
GHS Classification in accordance with OSHA 29 CFR 1910.1200 HCS

OSHA HCS 2012 This product is generally an article and is considered non-hazardous in its solid form, but is regulated under OSHA for the release of dust and fumes during mechanical processing operations.

OSHA Hazards : Acute Toxicant
Irritant
Target Organ Toxicity – Lungs, Central Nervous System
Carcinogen Reproductive Toxicant Mutagen
Skin/Respiratory Sensitizer

GHS Classification :

Acute Toxicity – Category 3	Eye Damage/Irritation – Category 2B
Respiratory Sensitizer – Category 1	Skin Sensitizer – Category 1
Germ Cell Mutagenicity – Category 2	Carcinogenicity – Category 1B
Toxic to Reproduction – Category 1A	

Specific Target Organ Toxicity (Repeated Exposure) – Category 1
Hazardous to the Aquatic Environment – Acute Hazard – Category 1
Hazardous to the Aquatic Environment – Chronic Hazard – Category 2

2.2 Label Elements – OSHA HCS 2012

Pictogram(s)

Signal Word: Warning

Hazard statements: There are no health hazards from copper alloy wire in solid form. Exposure to dust and/or fumes from processing such as burning, welding, sawing, brazing and grinding may cause serious health effect.
Causes skin irritation.
May cause an allergic skin reaction.

Causes serious eye irritation.
May cause respiratory irritation.
Suspected of causing cancer.
Causes damage to organs – lungs via inhalation.
Causes damage to organs – lungs through prolonged or repeated exposure via inhalation.
May form combustible dust concentrations in air.

Precautionary statements:

Prevention Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dusts, fumes and gases.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves – work gloves and eye/face protection – safety glasses or goggles.
In case of inadequate ventilation, wear respiratory protection.

Response IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF exposed or concerned: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage/Disposal Store away from strong acids, oxidizes and alkalis.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
Refer to manufacturer/supplier for information on recovery/recycling.

2.3 Other Hazards

OSHA HCS 2012 No data available

2.4 Other information

NFPA Health = 1, Flammability = 0, Special Information = None

HMIS Health = 1*, Flammability = 0, Reactivity = 0, PPE = E
* Chronic Health Hazard
E = Safety glasses, gloves and respirator if above exposure levels

Section 3 - Composition/Information on Ingredients

Mixtures

Copper alloy in its solid state is not considered hazardous. However, operations such as burning, welding, sawing, brazing or grinding may release dust and/or fumes, which may present health hazards. These elements may appear in some or various combinations in any particular grade of stainless steel.

Composition			
Chemical Name	**Identifiers**	**%**	**Hazardous**
Cadmium	**CAS:** 7440-43-9	< 2%	Yes
Copper	**CAS:** 7440-50-8	< 99.95%	Yes
Iron	**CAS:** 7439-89-6	< 1%	No
Manganese	**CAS:** 7439-96-5	< 2%	Yes
Tin	**CAS:** 7440-31-5	< 10%	Yes
Nickel	**CAS:** 7440-02-0	< 46%	Yes
Silicon	**CAS:** 7440-21-3	< 4.5%	Yes
Zinc	**CAS:** 7440-66-6	< 35%	Yes
Phosphorus	**CAS:** 7723-14-0	< 0.5%	Yes

Section 4: First-Aid Measures

Description of first aid measures

Inhalation
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin
- If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eye
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion
- Low hazard for usual industrial or commercial handling. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Section 5: Fire-Fighting Measures

5.1 Extinguishing Media

Suitable extinguishing media: Product as supplied in solid form is non-combustible. Use firefighting measures for surrounding materials. Use Class D fir extinguisher for fires involving metal dusts. Do not use water on product if it has become molten.

5.2 Special hazards arising from the substance or mixture

Vapors and fumes containing metals (or their oxides) may be formed at temperature above the melting point. Exposure to unknown concentrations of vapors and fumes require the wearing of a pressure-demand airline respirator or pressure-demand self-contained breathing apparatus (SCBA).

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Product as supplied in solid form is not classified as a U.S. Department of Transportation hazardous material.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	No data available
Emergency Procedures	Solid form: Not applicable. In dusty environment, ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Clean up using methods which avoid dust generation. During cleanup avoid inhalation and skin and eye contact. Provide local exhaust or dilution ventilation as required.

6.2 Environmental precautions

No data available

6.3 Methods and material for containment and cleaning up

Pick up and arrange disposal without creating dust. Vacuum type equipment of effective for control and cleanup. Vacuum and ventilation equipment should have HEPA type filters where appropriate. Material should be swept or vacuumed and placed into appropriate disposable containers. Keep in suitable, closed containers for disposal.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Stable under normal temperature and pressure. Do not breathe (dust or fumes). Do not use in areas without adequate ventilation. Do not use sparking tools. Keep away from heat and ignition sources – No Smoking. Use good safety and industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

Store away from strong acids and oxidizers.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines • No data available on product. Individual elements may be emitted during processing.

Intentionally added elements only	ACGIH – TWA (mg/m^3)	NIOSH – IDLH (mg/m^3)	OSHA – TWA (mg/m^3)
Copper (fume)	0.2	100	0.1
Copper (dust and mist)	1.0	100	1.0
Nickel (metal and insoluble compounds)	1.5 (as Ni)	10	1.0
Manganese (compounds and fume)	0.2	500	5.0
Iron (oxide fume)	5.0	2500	10.0
Silicon (total dust)	10.0	-	15.0
Silicon (respirable fraction)	-	-	5.0
Phosphorus (yellow)	0.1	5	0.1
Zinc (oxide fume)	5.0	500	5.0
Zinc (oxide total dust)	10.0	500	15.0
Zinc (oxide dust respirable fraction)	-	500	5.0
Tin (inorganic compounds except tin oxide)	2.0	100	2.0
Tin (oxide)	2.0	100	-

Exposure controls

Engineering Measures/Controls
- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values. Use only appropriately classified electrical equipment.

Personal Protective Equipment

Pictograms
- 

Respiratory
- Use of a NIOSH/MSHA approved dust respirator is recommended where airborne dust levels exceed appropriate PELs and TLVs.

Eye/Face
- Wear protective eyewear (goggles, face shield, or safety glasses).

Hands
- Wear protective gloves - suitable for protection against physical injury and skin contact during handling and processing.

Skin/Body
- Wear protective clothing - such as long sleeves and or coveralls during processing.

General Industrial Hygiene Considerations
- Practice good housekeeping and avoid creating/breathing dust. Do not allow dust to collect. Maintain, clean, and fit test respirators in accordance with OSHA regulations. Provide readily accessible eyewash stations.

Environmental Exposure Controls
- No data available

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Appearance and Odor	:	Golden Yellow to Brown/Bronze Solid
Boiling Point	:	Not available
Melting Point	:	880^0C - 1150^0C (1616^0F – 2102^0F)
pH	:	Not applicable
Density	:	8.33 – 8.94 gr/cm^3 (0.3 – 0.32 lb/in^3)
Auto-Ignition Temperature	:	Not applicable
Viscosity	:	Not applicable
Vapor Pressure	:	Not applicable
Vapor Density (air = 1)	:	Not applicable

% Volatile, by volume	:	None
Solubility in Water	:	Insoluble
Evaporation Rate (butyl acetate = 1)	:	<1
Other Physical and Chemical Data	:	None

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under recommended storage conditions.

Possibility of hazardous reactions

- No data available.

Conditions to avoid

- Incompatible materials.

Incompatible materials

- Do not let molten material come into contact with water. Reacts with strong acids and may form hydrogen gas. Do not store near strong oxidizers. Reacts with some acids and caustic solutions to produce hydrogen gas. Hydrogen gas can be an explosion hazard. Avoid contact with oxidizers. Reacts violently with acetylene, ammonium nitrate, bromates, chlorates, iodates, chlorine, chlorine trifluoride, ethylene ozide, fluorine, hydrogen peroxide, hydrazine mononitrate, hydrogen sulfide, hydrazoic acid, lead azide, potassium peroxide, sodium azide and sodium peroxide.

Hazardous decomposition products

- Hazardous decomposition may occur during certain operations such as welding, burning, melting or hot rolling, generating hazardous metal fumes.

Section 11 - Toxicological Information

Information on toxicological effects

Acute toxicity	:	Harmful if swallowed
Skin corrosion/irritation	:	No data available
Serious eye damage/eye irritation	:	No data available
Respiratory or skin sensitization	:	No data available
Germ cell mutagenicity	:	No data available
Carcinogenicity	:	Nickel – NTP Reasonably Anticipated to be Human Carcinogen Nickel – IARC Group 2B (possibly carcinogenic to human) **Nickel is listed by the State of California as a substance known to cause cancer under Proposition 65, as of June 1, 2015.**
Reproductive toxicity	:	No data available
Specific target organ toxicity (single exposure)	:	No data available
Specific target organ toxicity (repeated exposure)	:	No data available
Aspiration hazard	:	No data available
Target Organs	:	Skin/Dermal, Lungs, Central Nervous System (CNS), Liver/Hepatotoxin, Kidney/Nephrotoxin, Metal Fume Fever, Nasal Cavity
Route(s) of entry/exposure	:	Dermal contact with and/or inhalation of dust or fume during welding, cutting, grinding, burning, and other operations. Overexposure to dust and/or fume generated during processing can pose health hazards as defined below.
Medic al Conditions Aggravated by Exposure	:	May aggravate asthma or other respiratory disorders. May aggravate skin disorders.

Potential Health Effects

Inhalation

Acute (Immediate)
- May cause respiratory irritation. May cause sensitization. May cause metal fume fever.

Chronic (Delayed)
- Prolonged inhalation of dust or fume may cause lung, central nervous system, liver, kidney and nasal cavity damage.

Skin

Acute (Immediate)
- Causes skin irritation. May cause skin sensitization. Symptoms include redness, and skin rash.

Chronic (Delayed)
- Repeated and prolonged exposure may cause irritation. Repeated and prolonged exposure may cause sensitization.

Eye

Acute (Immediate)
- Exposure to dust and fumes may cause irritation. Exposure to fumes and dusts may cause sensitization and conjunctivitis.

Chronic (Delayed)
- Repeated and prolonged exposure to dust and fumes may cause irritation. Repeated and prolonged exposure to dusts and fumes may cause sensitization and conjunctivitis.

Ingestion

Acute (Immediate)
- Low hazard for usual industrial or commercial handling. Gastrointestinal disturbances including nausea and vomiting may result from ingestion of dusts.

Chronic (Delayed)
- Low hazard for usual industrial or commercial handling. Repeated and prolonged exposure may cause gastrointestinal disturbances including nausea and vomiting.

Carcinogenic Effects
- No carcinogenic effects resulting from exposure to stainless steels have been reported, either in epidemiological studies or in tests with animals. Stainless steel does contain carcinogenic components above the cut-off threshold amount of 0.1% (nickel and cobalt) and therefore stainless steel (as dusts and fumes) must be classified as a carcinogen.

Carcinogenic Effects			
	CAS	**IARC**	**NTP**
Nickel	7440-02-0	Group 2B-Possible Carcinogen	Reasonably Anticipated to be Human Carcinogen
Nickel as Nickel Compounds	NDA	Group 1-Carcinogenic	Known Human Carcinogen

Section 12 - Ecological Information

Toxicity

- Copper is very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Most heavy metals can affect microorganisms at concentrations found in the environment. However, the toxicity of metal depends on the physiochemical characteristics of the environment where it is deposited.
  As with all foreign substances do not allow to enter the storm drainage systems.

Persistence and degradability

- No data available

Bioaccumulative potential

- No data available

Mobility in Soil

- No data available

Section 13 - Disposal Considerations

Waste treatment methods

Product waste	• Product as shipped is not considered hazardous and should be recycled. Product dusts from processing may be classified as hazardous waste, as defined in 40 CFR 261 as well as state and/or local regulation. Solid waste generated from product processing should be classified by a competent environmental professional and disposed, processed or recycled in accordance with federal, state and local regulation.
Packaging waste	• Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

Component Marine Pollutants
This product contains one or more of the following chemicals required by U.S. DOT to be identified as marine pollutants.

Component	CAS No.	
Copper	7440-50-8	DOT regulated severe marine pollutant (powder)

DOT Information
Shipping Name : Not Regulated
IATA Information
Shipping Name : Not Regulated
ICAO Information
Shipping Name : Not Regulated
IMDG Information
Shipping Name : Not Regulated

Section 15 - Regulatory Information

NOTE: The regulatory information contained in this Safety Data Sheet (SDS) is not intended to be comprehensive. Consult country, federal, state and local laws, rule and regulations before use.

California Proposition 65: This product contains chemicals (nickel) known to the State of California to cause cancer.

Pennsylvania Hazardous Substance List: Copper, Manganese, Nickel, Phosphorus, Silicon, Tin, Iron oxide dust and Zinc.

New Jersey Hazardous Substance List: Copper, Manganese, Nickel, Phosphorus, Silicon, Tin, Iron oxide dust and Zinc.
Massachusetts Substance List: Copper, Manganese, Nickel, Phosphorus, Silicon, Tin, Iron oxide dust and Zinc.

The Resource Conservation and Recovery Act (RCRA)
Product is NOT a Hazardous Waste when disposed.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
US EPA allows a reporting exception for massive forms of certain solid metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium and zinc) when diameter of the released metal equals or exceeds 100 micrometers (0.004 inches) (50 FR 13461, April 4, 1985). The Agency deliberately set the cutoff size 10 times larger than the maximum size considered by EPA to be respirable dust to ensure that the government would be notified of releases containing small, inhalable particles of metals.

Superfund Amendments and Reauthorization Act of 1986 (SARA), Title III
Section 311/312 HAZARD CATEGORIES: Immediate Health Effect (acute), Delayed Health Effect (chronic)

Section 313 Supplier Notification
This product contains EPCRA Section 313 chemicals subject to the reporting requirements of the Emergency Planning and Community Right-to-Know Act of 1986 (40 CFR 372) as indicated below.

Component	CAS No.	Concentration (%wt)
Copper	7440-50-8	See Section 3
Manganese	7439-96-5	See Section 3

Nickel	7440-02-0	See Section 3
Phosphorus	7723-14-0	See Section 3
Zinc	7440-66-6	See Section 3

Component Analysis – WHMIS IDL
The following components are identified under the Canadian Hazardous Product Act Ingredient Disclosure Act List:

Component	CAS No.	Minimum Concentration (%wt)
Copper	7440-50-8	1%
Manganese	7439-96-5	1%
Nickel	7440-02-0	0.1%
Phosphorus	7723-14-0	1%
Zinc	7440-66-6	1%
Iron	7439-89-6	1%
Silicon	7440-21-3	1%
Tin	7440-31-5	1%

Component Analysis – Inventory
The following components are identified under the following inventory lists:

Component	CAS No.	TSCA	CAN	EEC
Copper	7440-50-8	Yes	DSL	EINECS
Manganese	7439-96-5	Yes	DSL	EINECS
Nickel	7440-02-0	Yes	DSL	EINECS
Phosphorus	7723-14-0	Yes	DSL	EINECS
Zinc	7440-66-6	Yes	DSL	EINECS
Iron	7439-89-6	Yes	DSL	EINECS
Tin	7440-31-5	Yes	DSL	EINECS
Silicon	7440-21-3	Yes	DSL	EINECS

Section 16 - Other Information

Classification method for mixtures
- Cut-off values/concentration limits of ingredients.

Last Revision Date
- November 25, 2020

Preparation Date
- June 8, 2015

Reviewed Date
- January 10, 2024

Disclaimer/Statement of Liability
- This information is taken from sources or based upon data believed to be reliable. However, Central Wire Industries Ltd makes no warranty as to the absolute correctness or sufficiency of any of the foregoing information or that additional or other measures may not be required under particular conditions.