SAFETY DATA SHEET

Section 1: Identification

Product Identifier as Used on the Label:	**High Carbon Steel Wire**
Other Means of Identification:	None
Recommended Use of the Chemical / Restrictions on Use:	Wire
Manufacturer's Name, Address, and Telephone Number:	Leggett & Platt Wire Division (Carthage Wire Mill, Adcom Wire Company, Merit Steel, Solon Specialty Wire) 1 Leggett Rd, Carthage, MO. 64836
Emergency Phone Number:	(417) 358-8131 (during normal business hours)

Section 2: Hazard(s) Identification

Hazard Classification(s):	Not classified
Signal Word:	Not classified
Hazard Statement(s):	Not classified
Pictogram(s):	Not classified
Precautionary Statement(s):	Avoid creating dusts or fumes
Description of any Hazards not Otherwise Classified:	Not classified
Percentage of Ingredients with Unknown Toxicity:	None

Section 3: Hazard(s) Identification

Chemical Name	CAS #	Percentage by Weight %	Comments
Iron	7439-89-6	75-99	Base wire
Chromium	7440-47-3	<0.2	Base wire
Nickel	7440-02-0	<0.15	Base wire
Carbon	7440-44-0	<1	Base wire
Manganese	7439-96-5	<1	Base wire
Copper	7440-50-8	<0.25	Base wire
Silicon	7440-21-3	<0.35	Base wire

May contain trace elements of the following in <0.01% amounts: Phosphorus, Sulfur, Molybdenum, and Nitrogen

Section 4: First-Aid Measures

DESCRIPTION OF FIRST-AID MEASURES

Inhalation: In case of inhalation of dusts or fumes from heated product: Move into fresh air and keep at rest. Get medical attention if symptoms persist. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration.

Skin Contact: Wash skin with soap and water. In case of burns with hot metal, rinse with plenty of cold water. If burns are severe, consult a physician. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye Contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention promptly if symptoms persist or occur after washing.

Ingestion: Solid steel: Not applicable. Dust: Get medical attention if any discomfort continues.

Most Important Symptoms and Effects, both Acute and Delayed: Exposed individuals may experience eye tearing, redness, and discomfort. May dry the skin leading to discomfort and dermatitis. Prolonged contact may cause redness, irritation and cracking.

Indicators for Needed Immediate Medical Attention and Special Treatment: High concentrations of freshly formed fumes/dusts of metal oxides can produce symptoms of metal fume fever. Typical symptoms last 12 to 48 hours and are characterized by metallic taste in the mouth, dryness, and irritation of the throat, followed by weakness, muscle pain, fever, and chills.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media: No unusual fire or explosion hazards are noted. Use fire extinguishing media appropriate for the surrounding materials

Unsuitable Extinguishing Media: None known

Specific Hazards Created by Chemical During Combustion: By heating and fire, toxic fumes may be generated

Special Protective Equipment and Precautions for Fire Fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire

Section 6: Accidental Release Measures

Personal Precautions Release Response: Cold solid metal: No special precautions are necessary beyond normal good hygiene practices and protection against possible sharp edges.

Protective Equipment for Release Response: Leather gloves

Emergency Procedures for Release Response: None

Methods and Materials for Containment and Clean-Up: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations

Section 7: Handling and Storage

Precautions for Safe Handling: Avoid contact with sharp edges and hot surfaces. Use appropriate gloves and tools to ensure safe handling. Use work methods which minimize dust/fume production. Do not breathe fumes and dusts. The organic material(s) of the coating(s) may generate fumes or gases when heated or melted. Follow the recommendations in ANSI Z49.1, Safety in welding and cutting (ANSI=American National Standard Institute). Observe good industrial hygiene practices.

Required Conditions for Safe Storage: Store in a dry place.

Storage Conditions to Avoid: Store away from: Oxidizing agents. Acids.

Section 8: Exposure Controls / Personal Protection

EXPOSURE LIMITS

Component	Type	Source	Value	Form
Iron Oxide**	PEL	OSHA	10mg/m3	Fume
CAS 1309-37-1	TWA	ACGIH	5mg/m3	Respirable Fraction
	REL	NIOSH	5mg/m3	Dust and Fume
Chromium	PEL	OSHA	1mg/m3	
CAS 7440-47-3	TWA	ACGIH	0.5mg/m3	
	REL	NIOSH	0.5mg/m3	
Nickel	PEL	OSHA	1mg/m3	
CAS 7440-02-0	TWA	ACGIH	1.5mg/m3	Inhalable Fraction
	REL	NIOSH	0.015mg/m3	
Manganese	Ceiling	OSHA	5mg/m3	Fume
CAS 7439-96-5	TWA	ACGIH	0.1mg/m3	Inhalable Fraction
	REL	NIOSH	1mg/m3	Fume
	STEL	NIOSH	10mg/m3	Fume

**Iron oxide is formed at temperatures above the melting point.

EXPOSURE CONTROLS

Engineering Controls: Adequate ventilation should be provided so that exposure limits are not exceeded. Use local exhaust when welding, burning, sawing, brazing, grinding or machining to prevent excessive dust or fume exposure

General Hygiene Considerations: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/ or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Observe and medical surveillance requirements.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust / fumes at limits exceeding the exposure limits

Eyes and Face: Use of safety glasses or goggles is required for welding, burning, sawing, brazing, grinding or machining operations. In addition to safety glasses or goggles, a welding helmet with appropriate shaded shield is required during welding, burning, or brazing. A face shield is recommended, in addition to safety glasses or goggles, during sawing, grinding, or machining.

Hands: Wear protective gloves.

Skin and Body: Wear suitable protective clothing

Section 9: Physical and Chemical Properties

MATERIAL DESCRIPTION

Physical Form:	solid	**Flash Point:**	n/a
Appearance:	Silver to gray	**Evaporation Rate:**	n/a
Odor:	No odor	**Flammability (solid, gas):**	n/a
Odor Threshold:	n/a	**Upper / Lower Flammability or Explosive Limits:**	n/a
pH:	n/a	**Vapor Pressure:**	n/a
Melting Point / Freezing Point:	2600-2800F	**Vapor Density:**	n/a
Boiling Point:	n/a	**Specific Gravity (H2O=1):**	Approximately 8
Solubility:	n/a	**Auto-Ignition Temperature:**	n/a
Partition Coefficient, n-octanol / water:	n/a	**Decomposition Temperature:**	n/a
Viscosity:	n/a	**Particulate Size:**	n/a

Section 10: Stability and Reactivity

Reactivity: Stable at normal conditions

Chemical Stability: This product is stable under expected conditions of use

Possibility of Hazardous Reactions: Will not occur under expected conditions of use

Conditions to Avoid: Contact with incompatible materials

Incompatible Materials: Strong acids and oxidizing agents

Hazardous Decomposition Bi-Products: At elevated temperatures: metal oxides, metal fumes, ozone, and carbon oxides

Section 11: Toxicological Information

Information on likely routes of exposure

Ingestion Solid steel: Not relevant, due to the form of the product. However, ingestion of dusts generated during working operations may cause nausea and vomiting.

Inhalation No inhalation hazard under normal conditions. Welding, burning, sawing, brazing, grinding or machining operations may generate fumes and dusts of metal oxides. High concentrations of freshly formed fumes/dusts of metal oxides can produce symptoms of metal fume fever. Typical symptoms last 12 to 48 hours and are characterized by metallic taste in the mouth, dryness, and irritation of the throat, followed by weakness, muscle pain, fever, and chills.

Skin Contact Under normal conditions of intended use, this material does not pose a risk to health. Dust may irritate skin. Contact with hot material can cause thermal burns which may result in permanent damage.

Eye Contact Under normal conditions of intended use, this material does not pose a risk to health. Contact with hot material can cause thermal burns which may result in permanent damage. Grinding and sanding this product may generate dust. Dust may irritate the eyes.

Symptoms related to the physical, chemical and toxicological characteristics Symptoms include itching, burning, redness, and tearing of eyes. Mechanical irritation of skin. Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.

Information on toxicological effects

Acute toxicity Welding, cutting and metalizing can generate ozone. Ozone can cause irritation of eyes, nose and respiratory tract.

Components	Species	Test Results
Iron (CAS 7439-89-6)		
Acute		
Oral		
LD50	Rat	30 g/kg
Manganese (CAS 7439-96-5)		
Acute		
Oral		
LD50	Rat	9000 mg/kg
Skin corrosion / irritation	Not classified	
Serious eye damage / eye irritation	Not classified	
Respiratory or skin sensitization		
Respiratory sensitization	No data available	
Skin sensitization	Contains nickel: May cause allergic skin reaction	
Germ cell mutagenicity	No data available	
Carcinogenicity	For solid product: The product is not classified as carcinogenetic	
IARC Monographs Overall Evaluation of Carcinogenicity		
Nickel (CAS 7440-02-0)	2B Possible carcinogen to humans	
NTP Report on Carcinogens		
Nickel (CAS 7440-02-0)	Reasonably anticipated to be a human carcinogen	
Reproductive toxicity	No data available	

Specific target organ toxicity-single exposure	Not classified
Specific target organ toxicity-repeated exposure	Not classified
Aspiration hazard	Not applicable for solids
Chronic effects	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. Exposure to manganese fume/dust can affect the central nervous system (apathy, drowsiness, weakness, and chronic symptoms such as postural tremors)
Further information	The ingredients of the alloy are bound within the product and release is not expected under normal conditions. In its manufactured and shipped state, this product is considered non-hazardous. Processing may generate hazardous fumes and dusts.

Section 12: Ecological Information

Ecotoxicity	Not expected to be harmful to aquatic organisms
Persistence and degradability	No data available
Bioaccumulative potential	No data available on bioaccumulation
Mobility in soil	No data available
Mobility in general	Not relevant, due to physical form of product
Other adverse effects	None known

Section 13: Disposal Considerations

Disposal Instructions:	Dispose of waste and residues in accordance with applicable federal, state and local regulations.
Hazardous Waste Code:	Not Regulated
Waste from Residues / Unused Products:	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Recover and recycle, if practical.

Section 14: Transport Information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable

Section 15: Regulatory Information

US Federal Regulations	Under some use conditions, this material may be considered to be hazardous in accordance with OSHA 29 CFR 1910.1200.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpart D)	Not Regulated
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not Listed
Superfund Amendments and Reauthorization Act of 1986 (SARA)	No Hazard Categories Listed
SARA 302 Extremely Hazardous Substance	Not Listed
SARA 311/312 Hazardous Chemical	No

SARA 313 (TRI Reporting)

Chemical Name	CAS Number	% by Weight
Manganese	7439-96-5	<1.0
Nickel	7440-02-0	<0.15

Other Federal Regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Manganese (CAS 7439-96-5)
Nickel (CAS 7440-02-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not Regulated

Safe Drinking Water Act (SDWA)

Not Regulated

US State Regulations

Massachusetts RTK – Substance List

Manganese (CAS 7439-96-5)
Nickel (CAS 7440-02-0)

New Jersey Worker and Community Right-to-Know Act

Manganese (CAS 7439-96-5)
Nickel (CAS 7440-02-0)

Pennsylvania Worker and Community Right-to-Know Law

Manganese (CAS 7439-96-5)
Nickel (CAS 7440-02-0)

Rhode Island RTK

Manganese (CAS 7439-96-5)
Nickel (CAS 7440-02-0)

California Proposition

WARNING: This product contains a chemical known to the State of California to cause Cancer.
Carcinogens & Reproductive Toxicity (CRT) - Nickel (CAS 7440-02-0)

International Inventories

Country or Region	Inventory Name	On Inventory (Yes / No)
US & Puerto Rico	TSCA Inventory	Yes

Section 16: Other Information

Date of SDS Preparation: 03/18/2015

Last Revision Date: 03/18/2015

Changes From Last Revision: MSDS to SDS conversion

Other Information: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.