Carbon Steel & Low Alloy

SAFETY DATA SHEET

Control # 100 date: 5/29/15

SECTION: 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product Name: Carbon Steel & Low Alloy Wire

Product Identification: ER70S-2, ER70S-3, ER70S-6, ER70S-7, ER70S-G, E70C-6, E70C-G, R45, R60, R65, AWS A5.2, A5.17, A5.18, A5.23

Product Specification:

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

1.2.1 Relevant identified uses: For welding consumables and related products.

1.2.2 Uses advised: Reference the [7. Handling and storage]

1.3 Details of the supplier of the safety data sheet:

Supplier:

Weldcote Metals Inc.
842 Oak Grove Rd.
Kings Mountain, NC 28086

Emergency telephone number: (800) 424-9300 or (704) 739-4115

Email: info@weldcotemetals.com

SECTION: 2 HAZARDS IDENTIFICATION

2.1 Classification of the mixture:

The product is placed on the market in solid form

2.1.1 Classification in accordance with GHS-US

STOT SE 3	H336
STOT SE 3	H335
STOT RE 1	H372

2.2 Label elements:

GHS-US labeling

Hazard Pictograms (GHS-US):

GHS07 GHS09

Signal word (GHS-US): Danger

Hazard statements (GH5-US):

H335 May cause respiratory irritation

H336 May cause drowsiness or dizziness

H372 Causes damage to organs through prolonged or repeated exposure

Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapours/spray

P261 Avoid breathing dust/fume/gas/mist/vapours/spray

P264 Wash thoroughly after handling

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P314 Get medical advice and attention if you feel unwell

P403+P233 Store in a well ventilated place. Keep container tightly closed.

P405 Store locked up

P501 Dispose of contents and container in accordance with local regional/national international regulations.

2.3 Other hazards: No additional information available

2.4 Unknown acute toxicity (GHS-US): No data available.

SECTION: 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: No data available

Full text of H-phrases: see section 16

3.2 Mixtures: The mixture contains dangerous substances:

SECTION: 4 FIRST AID MEASURES

Substance name		Product Identifier (CAS No)	% Percent	GHS-US classification
Manganese	**Mn**	**7439-96-5**	**0.5 – 2**	**Not classified**
Silicon	**Si**	**7440-21-3**	**0.1 – 1.15**	**Not classified**
Copper	**Cu**	**7440-50-8**	**0.3 – 0.5**	**Not classified**
Carbon	**C**	**7440-44-0**	**0.5 – 0.18**	**Not classified**
Titanium	**Ti**	**7440-32-6**	**0 – 0.17**	**Not classified**
Aluminum	**Al**	**7429-90-5**	**0 – 0.15**	**Not classified**

4.1 Description of first aid measures:

First-aid measures after inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and get medical attention.

First-aid measures after skin contact: Flush with water for at least 15 minutes. Seek medical attention if irritation develops or persists.

First-aid measures after eye contact: Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain medical attention if discomfort persists.

First-aid measures after ingestion: Do NOT induce vomiting. Get immediate medical attention.

4.2 Most important symptoms and effects, both acute and delayed:

Symptoms/injuries after inhalation: Short-term (acute) overexposure to the gases, fumes, and dusts may include irritation of the eyes, lungs, nose, and throat. Some toxic gases associated with welding may cause pulmonary edema, asphyxiation, and death. Acute overexposure may include signs and symptoms such as watery eyes, nose and throat irritation, headache, dizziness, difficulty in breathing, frequent coughing, or chest pain. The presence of chromium/chromate in fume can cause irritation of nasal membranes and skin. The presence of nickel compounds in fume can cause metallic taste, nausea, tightness of chest, fever, and allergic reaction. Excessive inhalation or ingestion of manganese can produce manganese poisoning. Overexposure to manganese compounds may affect the central nervous system, symptoms of which are languor, sleepiness, muscular weakness, emotional disturbances, and spastic gait resembling Parkinsonism. These symptoms can become progressive and permanent if not treated. Excessive inhalation of fumes may cause "Metal Fume Fever" with Flu-like symptoms such as chills, fever, body aches, vomiting, sweating, etc.

Symptoms/injuries after skin contact: Dusts may cause irritation.

Symptoms/injuries after eye contact: Causes eye irritation.

Symptoms/injuries after ingestion: Not an anticipated route of exposure during normal product handling. May be harmful if ingested.

4.3 Indication of any immediate medical attention and special treatment needed: No data available.

SECTION: 5 FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: No data available.

5.2 Special hazards arising from the substance or mixture: Fire may produce irritating or poisonous gases.

Fire hazard: Not flammable

Explosion hazard: None known

5.3 Advice for firefighters: In the event of fire, wear self-contained breathing apparatus and full protective gear.

SECTION: 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Wear appropriate personal protective equipment as specified in Section 8. Ensure adequate ventilation.

For emergency responders: No data available.

6.2 Environmental precautions: Avoid release into the environment. Avoid dispersal of spilled material and contact with soil, ground and surface water drains and sewers.

6.3 Methods and material for containment and cleaning up: Take up mechanically. Collect the material in labeled containers and dispose of according to local and regional authority requirements.

6.4 Reference to other sections: See Section 7 for information of safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

SECTION: 7 HANDLING AND STORAGE

7.1 Precautions and safe handling: Welding may produce dust, fumes and gases hazardous to health. Avoid breathing dust, fumes and gases. Use adequate ventilation. Keep away from sources of ignition. Avoid contact with skin, eyes and clothing. Do not eat, drink and smoke in work areas.

7.2 Conditions for safe storage, including and incompatibilities: Store in cool, dry and well-ventilated place. Keep away from incompatible materials. Keep away from heat and open flame.

7.3 Specific end use(s): For welding consumables and related products.

SECTION: 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters: Exposure limits were not established for this product

Copper	(CAS No) 7440-50-8	
USA ACGIH	ACGIH (TWA) (mg/m^3)	0.2 mg/m^3
USA OSHA	OSHA PEL (TWA) (mg/m^3)	1 mg/m^3
Manganese	(CAS No) 7439-96-5	
USA ACGIH	ACGIH (TWA) (mg/m^3)	0.1 mg/m^3
USA OSHA	OSHA PEL (Ceiling) (mg/m^3)	5 mg/m^3
Silicon	(CAS No) 744-21-3	
USA OSHA	OSHA PEL (TWA) (mg/m^3)	5 mg/m^3
Aluminum	(CAS No) 7429-90-5	
USA ACGIH	ACGIH (TWA) (mg/m^3)	1 mg/m^3
USA OSHA	OSHA PEL (TWA) (mg/m^3)	5 mg/m^3

8.2 Exposure controls:

Appropriate engineering controls: local exhaust and general ventilation must be adequate to meet exposure standards.

Hand protection: Wear welding gloves.

Eye protection: Wear helmet or face shield with filter lens of appropriate shade number. See ANSI/ASC Z49.1 Section 4.2. Provide protective screens and flash goggles, if necessary, to shield others.

Skin and body protection: Wear head and body protection, which help to prevent injury from radiation, sparks, flame and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the employee not to touch live electrical parts and to insulate him/herself from work and ground. Welders should not wear short sleeve shirts or short pants.

Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

SECTION: 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Physical state:	- Solid
Appearances:	- Rods or Wire
Color:	- Metallic
Odor:	- No data available
Odor threshold:	- No data available
pH:	- No data available
Relative evaporation rate (butyl acetate = l):	- No data available
Melting point:	- No data available
Freezing point:	- No data available
Initial boiling point and boiling range:	- No data available
Flash point:	- No data available
Self ignition temperature:	- No data available
Decomposition temperature:	- No data available
Flammability (solid, gas):	- No data available
Vapour pressure:	" No data available
Relative vapour density at 20· C:	- No data available
Relative density:	- No data available
Solubility(ies)	- No data available
Log Pow:	- No data available
Log Kow:	- No data available
Viscosity, kinematic:	- No data available
Viscosity, dynamic:	- No data available
Explosive properties:	- No data available
Oxidizing properties:	- No data available
Explosive limits:	- No data available

9.2 Other information: No additional information available.

SECTION: 10 STABILITY AND REACTIVITY

10.1 Reactivity: No additional information available.

10.2 Chemical stability: The product is stable under normal conditions. When using it may produce dangerous fumes and gases.

10.3 Possibility of hazardous reactions: Will not occur.

10.4 Conditions to avoid: None

10.5 Incompatible materials: None

10.6 Hazardous decomposition products: Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and welding consumables used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coating on the metal being welded (i.e. paint, painting, galvanizing), the number of welders, the volume of the work area, the quality and the amount of ventilation, the position of the welders head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from the cleaning and degreasing activities).

When an electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Fume and gas decomposition, and not the ingredients in the electrode, are important. The concentration of a given fume or gas component may decrease or increase by many times the original concentration. Also, new compounds not in the electrodes may form. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation of the materials shown in Section 3, plus those from the base metal coating, etc., as noted above. Reasonable expected fume constituents of this product would include: Complex oxides of iron, manganese, silicon, chromium, nickel, columbium, molybdenum, copper, carbon dioxide, carbon monoxide, ozone and nitrogen Oxides. Some products will also contain antimony, barium, molybdenum, aluminum, columbium, magnesium, strontium, tungsten, and or zirconium. Fume limit for chromium, nickel and or manganese may be reached before limit of 5 mg/m3 of general welding fumes is reached. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits. See ANSI/AWS Fl.!, Fl.3 and Fl.5, available from the American Welding Society, 550 N.W. Lejeune Road, Miami, FL 33126

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SECTION: 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Acute toxicity: Harmful if swallowed

Substance name	CAS number	LD5O oral rat (mg/kg)	ATE (oral) (mg/kg)	Comments
Manganese	7439-96-5		9000000.000 mg/kg	
Silicon	7440-21-3		3160.000 mg/kg	
Carbon	7440-21-3	>10000 mg/kg		

Skin corrosion/irritation: Not classified

Serious eye damage/irritation: Not classified

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Specific target organ toxicity (single exposure): May cause drowsiness. May cause respiratory irritation.

Specific target organ toxicity (repeated exposure): Causes damage to organs through prolonged or repeated exposure

Aspiration hazard: Not classified

SECTION: 12 ECOLOGICAL INFORMATION

12.1 Toxicity:

Ecology - general: No additional information available.

Copper	(CAS No) 7440-50-8
LC50 fishes 1	0.0068 - 0.0156 mg/l (Exposure time: 96 h - species: Pimephales promelas)
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [static])
EC50 other aquatic organisms 1	0.0426 - 0.0535 mg/l (Exposure time: 72 h - Species: Pseidokirchneriella subcapitata [static])
LC50 fish 2	< 0.3 mg/l (Exposure time: 96 h - species: Pimephales promelas ([static])
EC50 other aquatic organisms 2	0.031 - 0.054 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

12.2 Persistence and degradability: No additional information available.

12.3 Bioaccumulative potential: No additional information available.

12.4 Mobility in soil: No additional information available.

12.5 Other adverse effects: No additional information available.

SECTION: 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: Dispose of in accordance with local and national regulations.

Waste disposal recommendations: Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION: 14 TRANSPORT INFORMATION

In accordance with DOT / ADR / RID / ADNR / IMDG / ICAO / IATA

14.1 UN Number: Not a dangerous good in sense of transport regulations

14.2 UN proper shipping name: Not applicable

SECTION: 15 REGULATORY INFORMATION

15.1 US Federal Regulations:

Copper (CAS No) 7440-50-8
Listed on the United States TSCA (Toxic Substances Control Act) Inventory
Listed on SARA Section 313 (Specific toxic chemical listings)
SARA Section 313 - Emission Reporting 1.0%
Manganese (CAS No) 7439-96-5
Listed on the United States TSCA (Toxic Substances Control Act) Inventory
Listed on SARA Section 313 (Specific toxic chemical listings)
SARA Section 313 - Emission Reporting 1.0%
Silicon (CAS No) 7440-21-3
Listed on the United States TSCA (Toxic Substances Control Act) Inventory
Titanium (CAS No) 7440-32-6
Listed on the United States TSCA (Toxic Substances Control Act) Inventory
Carbon (CAS No) 7440-44-0
Listed on the United States TSCA (Toxic Substances Control Act) Inventory
Aluminum (CAS No) 7429-90-5
Listed on the United States TSCA (Toxic Substances Control Act) Inventory
Listed on SARA Section 313 (Specific toxic chemical listings)
SARA Section 313 - Emission Reporting 1.0% (dust or fume only)

15.2 US State Regulations:

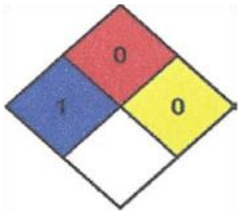
Copper	(CAS No)	7440-50-8
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance list		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		
Manganese	(CAS No)	7439-96-5
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		
Silicon	(CAS No)	7440-21-3
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		
Titanium	(CAS No)	7440-32-6
U.S. - New Jersey - Right to Know Hazardous Substance list		
Aluminum	(CAS No)	7429-90-5
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		

SECTION: 16 OTHER INFORMATION

Full text of H-phrases:

STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H372	Causes damage to organs through prolonged or repeated exposure

NFPA health hazard:	1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard:	0 - Materials that will not burn.
NFPA reactivity:	0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health:	2 - Moderate Hazard - Temporary or minor injury may occur
Flammability:	0 - Minimal Hazard
Physical:	0 - Minimal Hazard

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