SAFETY DATA SHEET (SDS)

For U.S. Manufactured or Distributed Welding Consumables and Related Products. Designed to meet the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals. May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200 and Superfund Amendments and reauthorization Act (SARA) of 1986 Public Law 99-499. The OSHA standard must be consulted for specific requirements. This Safety Data Sheet complies with European Commission Directive 89/106/EEC, ISO 11014-1 and ANSI Z400.1.

SECTION 1: Identification of the substance or mixture and of the supplier

Manufacturer/Supplier:	Welding Material Sales 1340 Reed Road Geneva, IL 60134
Telephone Number:	630-232-6421
Email Address:	sales@weldingmaterialsales.com
Emergency Number:	800-424-9300
Product Identifier:	Copper-Coated Arc Gouging Carbons
Intended use of this product:	For use as Welding Consumables

SECTION 2: Hazard Identification

CLP/GHS CLASSIFICATION (1272/2008) OF THE SUBSTANCE OR MIXTURE

Acute Tox. 4 (Oral): Acute toxicity (Oral), Category 4 (H302)

Carc. 1A: Carcinogenicity, Category 1A (H350)

LABEL ELEMENTS

DANGER!

APPLICABLE HAZARD PHRASES

H302: Harmful if swallowed

H350: May cause cancer

PRECAUTIONARY STATEMENTS (GHS-US)

P260: Do not breathe dust/fume/gas/mist/vapors/spray

P261: Avoid breathing dust/fume/gas/mist/vapors/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/doctor 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/container in accordance with local/regional/national/international regulation

OTHER HAZARDS: No additional information available

SECTION 3: Composition/Information on ingredients

HAZARDOUS INGREDIENT	CAS NUMBER	EINCS[r]	Weight Pct.	EU CLASSIFICATION/DESIGNATION - 67/548/EEC[Δ] (Risk Phrase Texts – see section 16)	GHS-US Classification	IARC[E]	NTP[Z]	OSHA[H]	65[ɵ]
Graphite (C)	7440-44-0	231-153-3	30-60%	None	Not Classified	---	---	---	---
Copper (Cu)	7440-50-8	231-159-6	10-30%	None	Not Classified	---	---	---	---
Silica Crystalline, quartz (SiO_2)	14808-60-7	238-878-4	0.5-1%	Xn – R48/20, R40/20	Acute Tox. 4 (Oral), H302 Carc. 1A, H350	1 Ψ	K	X	X

Γ-**E**uropean **IN**ventory of **E**xisting **C**hemical **S**ubstances Number Δ-European Union Directive 67/548/EEC-Annex 1 E-International Agency for Research on Cancer (1-Human Carcinogen, 2A-Probably Carcinogenic to Humans, 2B- Possible Carcinogenic to Humans, 3-Unclassifiable as to Carcinogenicity in Humans, 4 Probably Not Carcinogenic to Humans) Z-US National Toxicology Program (K-Known Carcinogen, S-Suspected Carcinogen) H-OSHA Known Carcinogen List ɵ-California Proposition 65 (X-On Proposition 65

list) ---Dashes indicate the ingredient is not with the IARC, NTP, OSHA or 65 Y -Manganese Dioxide EU 67/548/EEC Classification/Designation X-Molybdenum Trioxide EU 67/548/EEC Classification/Designation Ψ-Silica Crystalline α-Quartz

The following symbol corresponds with the EU 67/548/EEC column above are in European Union Directive 67/548/EEC Annex 1 and EC 1272/2008 Annex VI - Table 3.2:

 Xn: Harmful

WARNING! – Avoid breathing welding fumes and gases; they may be dangerous to your health. Always use adequate ventilation. Always use appropriate personal protective equipment

PRIMARY ROUTES OF ENTRY: Respiratory System, Eyes and/or Skin **ARC RAYS:** The welding arc can injure eyes and burn skin.
ELECTRIC SHOCK: Arc welding and associated processes can kill. See Section 8. **FUMES AND GASES:** Can be dangerous to your health.

Welding fumes and gases cannot be classified simply. The composition and quantity of fumes and gases are dependent upon the metal being welded, the process, the procedures followed and the consumables used. Most fume ingredients are present as complex oxides and compounds and not as pure metals. Workers should be aware that the composition and quantity of the fumes and gases they are exposed to are influenced by coatings such as paint, plating or galvanizing which may be present on the metal being welded, the number of welders in operation relative to the volume of the work area, the quality and effectiveness of the 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 cleaning and degreasing procedures).

Fumes may affect eyes, skin, respiratory system as well as the pancreas and liver. When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. The composition of these fumes and gases are the concerning matter and not the composition of the consumable itself. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation of the materials shown in this section, plus those from the base metal coating, etc., as noted above.

Reasonable expected constituents of the fume would include complex oxides or compounds of silica crystalline quartz and copper. General welding fume limit is 5mg/m3. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. One recommended way to 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. See ANSI/AWS F1.1, available from the American Welding Society, P.O Box 351040, Miami, FL 33135. Also, from AWS is F1.3 "Evaluating Contaminants in the Welding Environment-A Sampling Strategy Guide" which gives additional advice on sampling.

SECTION 4: First aid measures

Description of First Aid Measures:
Physical contact with unused welding consumables covered under this SDS poses no health hazard. The following first aid procedures pertain to used welding consumables and the fumes/gases generated.
Inhalation: Breathing difficulty caused by inhalation of dust or fume requires removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical assistance at once.
Ingestion: Unlikely entry due to the form of the product, however ingestion of particulate is possible through food, drinks, smoking, etc. Do not give anything by mouth to an unconscious person. Contact a poison control center. Unless the poison control center advises otherwise, have the conscious person slowly drink 1 to 2 glasses of water to dilute. Do not induce vomiting. Obtain medical assistance immediately.
Skin: Quickly remove contaminated clothing. Do not shake clothing. Skin contamination with dust or fume can be removed by washing with soap and water. For reddened or blistered skin, consult a physician.
Eyes: Do not allow the victim to rub or keep eyes tightly shut. Dust or fume should be flushed from the eyes with copious amounts of clean water, then go to an emergency medical facility and consult a physician.

Section 11 of this SDS covers the acute effects of overexposure to the various ingredients within the welding consumable. Section 8 of this SDS lists the exposure limits and covers methods for protecting yourself and your co-workers.

Most important symptoms and effects, both acute and delayed
Inhalation: Short term (acute) Inhalation of welding fumes may cause discomfort such as dizziness, nausea, or dryness or irritation of nose, throat or eyes. Pre-existing respiratory problems such as asthma and emphysema may be aggravated. Arc rays may injure eyes and burn skin. Long term (prolonged or repeated) overexposure to welding fumes causes damage to the respiratory system and may cause brain or nervous system damage.

Prolonged and repeated exposure to welding fumes may cause siderosis (iron deposits in lungs), liver or kidney damage, skin and respiratory sensitization (allergic reaction) and affect pulmonary function.

Ingestion: Not an expected route of exposure during normal use of this product. May be harmful if ingested.

Skin: Dust and fumes may cause irritation of the skin**.**

Eyes: Dust and fumes may cause eye irritation.

SECTION 5: Fire-fighting measures

Welding consumables applicable to this SDS, as shipped are nonreactive, nonflammable, non-explosive and essentially nonhazardous until welded. Welding arcs and sparks can ignite combustibles and can initiate fires and explosions. Used welding consumables may remain hot for a period of time after completion of welding process. Read and understand American National Standard Institute (ANSI) Z49.1 "Safety in Welding and Cutting" and National Fire Protection Association standard 51B for fire prevention in "Cutting and Welding Processes" before using these products.

Extinguishing Media: N/A Flammable Limit: N/A Flash Point: N/A Unusual Fire and Explosive Hazards: N/A Special Fire Fighting Procedures: Firefighters should wear full protective gear.

SECTION 6: Accidental release measures

In solid form the welding consumables applicable to this SDS pose no special clean-up procedures. Wear proper personnel protective equipment, pick up the unused welding consumables and return to original container.

Avoid release into the environment. If the material is in the form of powder or dust, notify safety personnel, isolate the area and deny entry. Do not sweep, but use a vacuum system utilizing a high efficiency particulate air (HEPA) filtration system. Use caution to minimize airborne generation of the powder or dust and avoid contamination of air and water. Cleanup personnel should wear proper protective equipment to avoid exposure.

Properly label all powder or dust collected in a waste container and dispose of in an environmentally acceptable manner.

SECTION 7: Handling and storage

HANDLING: Store in a dry area to protect product quality. No other specific requirements in the form supplied. Wear gloves and do not ingest dust from welding consumables. Some individuals can develop an allergic reaction to certain materials. Avoid inhalation of welding fumes. Keep your head out of the fumes. Use enough ventilation or exhaust at the arc, or both, to keep fumes and gases below the occupational exposure limits in your breathing zone and general work area. Work in a confined space only if it is well ventilated or while wearing an air-supplied respirator. Fumes from welding combined with oxygen depletion can alter the air quality causing injury or death.

Read and understand the manufacturer's instructions and precautionary label on the product packaging as well as your employer's safety practices. Take all necessary precautions to protect yourself and others. **See Section 16 for further handling and storage information**

SECTION 8: Exposure controls/personal protection

Read and understand the instructions and the labels on the packaging. Welding fumes do not have a specific OSHA PEL or ACGIH TLV. The OSHA PEL for Particulate – Not Otherwise Classified (PNOC) is 5 mg/m^3 – Respirable Fraction, 15 mg/m^3 – Total Dust. The ACGIH TLV for Particles – Not Otherwise Specified (PNOS) is 3 mg/m^3 – Respirable Particles, 10 mg/m^3 – Inhalable Particles. The individual complex compounds within the fume may have a lower OSHA PEL or ACGIH TLV than the OSHA Particulate – Not Otherwise Classified (PNOC) and ACGIH Particles – Not Otherwise Specified (PNOS). An Industrial Hygienist, the OSHA Permissible Exposure Limits for Air Contaminants (29 CFR 1910.1000), and the ACGIH Threshold Limit Values should be consulted to determine the specific fume constituents present and their respective exposure limits. European Union Occupational Exposure Limits (EU OEL) are listed with the most stringent limit among the EU member nations. All exposure limits are in milligrams per cubic meter (mg/m^3).

INGREDIENT	CAS NUMBER	EINCS	OSHA PEL	ACGIH TLV	EU OEL
Graphite (C)	7440-44-0	231-153-3	2 R*(Dust)	2.5 R* (Dust)	
Copper (Cu)	7440-50-8	231-159-6	0.1 (Fume), 1 (Dust)	0.2 (Fume), 1 (Dust)	0.1 I*(Aerosol); 0.2 I***(Aerosol) – Germany 0.1; 0.2*** - Denmark
Silica Crystalline, Quartz (SiO_2)	14808-60-7	238-878-4	0.1 R*	0.025 R* {A2}	0.1 (Fused, Respirable Dust) – Denmark 0.2*** (Fused, Respirable Dust) - Denmark

R*-Respirable Fraction R***-Respirable Fraction-Short Term Exposure Limit I*-Inhalable Fraction I***-Inhalable Fraction-Short Term Exposure Limit **-Ceiling Limit ***-Short Term Exposure Limit +-As a nuisance particulate covered under "Particulates Not Otherwise Regulated" by OSHA or "Particulates Not Otherwise Classified" by ACGIH ++-Crystalline silica is bound within the product as it exists in the package. However, research indicates silica is present in welding fume in the amorphous (non-crystalline) form #-Reportable material under Section 313 of SARA ## -Reportable material under Section 313 of SARA only in fibrous form ■-NIOSH REL TWA (Time Weighed Average) and STEL (Short Term Exposure Limit) Ele-Element Sol-Soluble Insol-Insoluble Inorg-Inorganic Cpnds- Compounds NOS-Not Otherwise Specified {A1}-Confirmed Human Carcinogen per ACGIH {A2}-Suspected Human Carcinogen per ACGIH {A3}-Confirmed Animal Carcinogen with Unknown Relevance to Humans per ACGIH {A4}-Not Classifiable as a Human Carcinogen per ACGIH {A5}-Not Suspected as a Human Carcinogen per ACGIH (non-crystalline) form. See Section 16 for more definitions.

VENTILATION: Use plenty of ventilation and/or local exhaust at the arc to keep the fumes and gases below the threshold limits (PEL/TLV/OEL) within the worker's breathing zone and the general area. Welders should be advised to keep their head out of the fume plume. If fumes are removed by filtration or some other means and the air/gas is put back into the room, gases and fumes may build up to toxic or asphyxiation levels. Gas build-up should be monitored and if excessive should be removed or reduced to safe levels by some supplementary system and/or reduced by general ventilation.

RESPIRATORY PROTECTION: Use NIOSH approved or equivalent fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below the threshold limits. Remember that dust and fumes from this processes can displace breathing air and cause asphyxiation in confined work spaces or unventilated areas.

SKIN PROTECTION: Wear approved head, hand and body protection which help prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. This includes welder's gloves and protective face shield, and may include arm protectors, aprons, hats, shoulder protection as well as dark non synthetic clothing. Do not wear short sleeve shirts or short pants. Welders should be trained not to allow electrically live parts to contact the skin, wet clothing or wet gloves. Welders should insulate themselves from the work and ground.

EYE PROTECTION: Wear a helmet or face shield with filter lens shade number 12-14 or darker. Do not go below the minimum recommended shade in ANSI Z49.1. Shield other workers by providing screens and flash goggles.

ELECTRIC SHOCK: Welders should be trained to avoid electric shock by maintaining a dry work area, insulating themselves from the work piece and ground. Do not touch live electrical parts.

SPECIAL PRECAUTIONS (IMPORTANT): Maintain exposure below the PEL/TLV/OEL threshold limits. Use industrial hygiene monitoring to ensure that your use of this material does not create exposures which exceed PEL/TLV/OEL. Always use exhaust ventilation. Refer to the following sources for important additional information: American National Standard (ANSI) Z49.1, "Safety in Welding and Cutting," published by the American Welding Society, PO Box 351040, Miami, FL 33135 and OSHA Publication 2206 (29 CFR 1910), U.S. Government Printing Office, Washington, DC 20402.

SECTION 9: Physical and chemical properties

Welding consumables applicable to this SDS as shipped are nonreactive, nonflammable, non-explosive, and essentially nonhazardous until welded.

Appearance: Copper-Coated Carbon Rods
Odor: Odorless
Odor Threshold: Not applicable
pH: Not applicable
Melting Point/Freezing point: Not applicable
Initial boiling point and boiling range: Not applicable
Flash Point: Not flammable
Evaporation rate: Not applicable
Flammability: Not applicable
No other information available

Upper/lower flammability or explosive limits: Not applicable
Vapor pressure: Not applicable
Vapor density: Not applicable
Relative density: Not applicable
Solubility: Insoluble in water
Partition coefficient: n-octanol/water: Not applicable
Auto-ignition temperature: Not applicable
Decomposition temperature: Not applicable
Viscosity: Not applicable

SECTION 10: Stability and reactivity

Reactivity: Not reactive under normal conditions however contact with acids or cleaning and degreasing chemicals may cause generation of gas
Chemical Stability: Stable under normal conditions.
Possibility of hazardous reactions: None known
Conditions to avoid: None known
Incompatible materials: None known
Hazardous decomposition products: Welding fumes and gases cannot be classified simply. The composition and quantity of fumes and gases are dependent upon the metal being welded, the process, the procedures followed and the consumables used. Most fume ingredients are present as complex oxides and compounds and not as pure metals. Workers should be aware that the composition and quantity of the fumes and gases they are exposed to are influenced by coatings such as paint, plating or galvanizing which may be present on the metal being welded, the number of welders in operation relative to the volume of the work area, the quality and effectiveness of the 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 cleaning and degreasing procedures). Fumes may affect eyes, skin, respiratory system as well as the pancreas and liver. When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. The composition of these fumes and gases are the concerning matter and not the composition of the consumable itself. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation of the materials shown in this section, plus those from the base metal coating, etc., as noted above.

Reasonable expected constituents of the fume would include complex oxides or compounds of silica crystalline quartz and copper. General welding fume limit is 5mg/m3. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. One recommended way to 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. See ANSI/AWS F1.1, available from the American Welding Society, P.O Box

351040, Miami, FL 33135. Also, from AWS is F1.3 "Evaluating Contaminants in the Welding Environment-A Sampling Strategy Guide" which gives additional advice on sampling.

SECTION 11: Toxicological information

SHORT-TERM (ACUTE) OVEREXPOSURE EFFECTS: Target Organs for fumes: skin, eyes, respiratory system. Welding Fumes – Inhalation of welding fumes can be dangerous to your health. Short-term (acute) overexposure to welding fumes may result in discomfort such as dizziness, nausea or dryness or irritation of the nose, throat or eyes. **Copper** present in the fumes may cause metal fume fever identified by metallic taste in mouth, tightness of chest and fever that may last 24 to 48 hours following overexposure **Silica (amorphous silica fume)** dust and fumes may cause irritation of the respiratory system, skin and eyes.

LONG-TERM (CHRONIC) OVEREXPOSURE EFFECTS: Target organs for fumes: skin, respiratory system, kidneys, central nervous system and liver. Welding Fumes – Excessive levels may cause bronchial asthma, lung fibrosis, pneumoconiosis or "siderosis". **Copper** poisoning is possible from excessive exposure to high levels of copper fume resulting in damage to the liver caused by cell destruction and cirrhosis. Anemia, jaundice and damage to the central nervous system may also occur. **Silica (Amorphous Silica Fume) –** Long-term overexposure may cause pneumoconiosis.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: People with pre-existing impaired lung functions (asthma-like conditions). People with pacemakers should not go near welding and cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device. Respirators are to be worn only after being medically cleared by your company-designated physician.

EMERGENCY AND FIRST AID PRCEDURES: Call for medical aid techniques recommended by the American Red Cross. If irritation or flash burns develop after exposure, consult a physician.

CARCINOGENICITY: Silica (crystalline quartz) are classified as IARC Group 1 and NTP Group K carcinogens. Silica (crystalline quartz) and welding fumes must be considered as carcinogens under OSHA (29 CFR 1910.1200).

CALIFORNIA PROPOSITION 65: WARNING: This product contains Silica Crystalline Quartz which is a known carcinogenic under California Proposition 65.This product, when used for welding or cutting produces fumes or gases which contain chemicals known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code Section 25249.5 et seq.).

Mercury Statement: Mercury is not a normal contaminant in these Copper Coated Arc Gouging Carbons and neither it nor any of its compounds are used in the manufacture of this product.

TOXICITY DATA

Acute toxicity: No acute toxicity data available for these products.

INGREDIENT	CAS NUMBER	EINCS	ENTRY METHOD/TOXICITY VALUES
Copper (Cu)	7440-50-8	231-159-6	• Ingestion: rat LD50 >2000 mg/kg • Ingestion: Dermal rat LD50 >2000 mg/kg • Inhalation: rat LC50 >5.11 mg/L/4 hr.
Graphite (C)	7440-44-0	231-153-3	• Ingestion: rat LD50 >10000 mg/kg
Silica Crystalline, quartz (SiO_2)	14808-60-7	238-878-4	• Ingestion: rat LD50 500 mg/kg

LC50: Lethal Concentration of gases (50% kill) LD50 Lethal Dose of solids or liquids (50% kill)

SECTION 12: Ecological information

In solid form the welding consumables listed in this SDS pose no special environmental problems. However metal powders, fumes and dust from welding processes may have a significant impact on air and water quality.

Special considerations should be taken to control the airborne emissions, spills and releases of these powders, fumes and dust in to the environment through streams, sewer systems, ground water, surface soil etc.

EXOTOXICITY

INGREDIENT	CAS NUMBER	EINCS	Aquatic Toxicity Values
Copper (Cu)	7440-50-8	231-159-6	• 48 hr. EC50 Daphnia magna 0.03 mg/L • 72hr. EC50 Pseudokirchneriella subcapitata 0.046 – 0.0535 mg/L • 96 hr LC50 Pimephales promelas 0.0068 – 0.0156 mg/L • 96 hr.EC50 Pseudokirchneriella subcapitata 0.031-0.054 mg/L

LC50: Lethal Concentration (50% kill) EC50: Effect Concentration in water (50% kill)

Persistence and degradability: Biodegradation is not applicable to inorganic substances.

Bio accumulative potential: No data available.

Mobility in the soil: No data available
Other adverse effects: No data available

SECTION 13: Disposal information

Recycle scrap rods when possible. Dispose of any powder, dust, weld grinding residue, fume or flux in an environmentally acceptable manner and in full compliance with federal, state, and local regulations.

SECTION 14: Transport information

No international regulations or restrictions are applicable. Ship in accordance with DOT/ADR/RID/ADNR/IMDG/ICAO/IATA. No special precautions are necessary.
UN Number: Not a dangerous material within the context of transport regulations.
UN Proper shipping name: Not Applicable
Transport hazard class: Not applicable
Packing group: Not Applicable
Environmental hazards: Refer to Section 12
Transport in bulk (according to Annex ll of MARPOL 73/78 and the IBC Code): Not applicable.
Special precautions which a user needs to be aware of, or to comply with, in connection with transport or conveyance within or outside their premises: Not applicable.

SECTION 15: Regulatory information

US FEDERAL REGULATIONS:
OSHA: Listed as air contaminants and hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)
TSCA: Toxic Substance Control Act – All ingredients of this SDS are listed on the TSCA inventory.
CERCLA: The ingredients listed on this SDS are not subject to CERCLA reporting requirements.
SARA HAZARD CATEGORY (311/312): Acute (Immediate) Health Hazard, Chronic (Delayed) Health Hazard
SARA Title lll Section 313 Toxic Chemicals:

COPPER (Cu)*	7440-50-8	231-159-6	10-30%

*Includes all compounds of copper

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (TPQ): None
SECTION 302 HAZARDOUS CHEMICALS: GRAPHITE, COPPER

STATE REGULATIONS

CALIFORNIA PROPOSITION 65: WARNING: This product contains Silica Crystalline Quartz which is a known carcinogenic under California Proposition 65. When the product is used in normal processes, fumes and gases will be generated which are known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code Section 25249.5 et. seq.)

INGREDIENT	CAS NUMBER	Massachusetts Right to Know (RTK) List	Minnesota Hazardous Substance List	New Jersey RTK Hazardous Substance List	Pennsylvania RTK List
COPPER (Cu)	7440-50-8	Yes	Yes	Yes	Yes
Silica Crystalline, Quartz (SiO_2)	14808-60-7	Yes	Yes	Yes	Yes

INTERNATIONAL REGULATIONS

CANADIAN WHMIS CLASSIFICATION: Class D, Division 2, Subdivision A.
CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): All constituents of these products are on the Domestic Substance List (DSL).

SECTION 16: Other information

Read and understand the manufacturer's instructions and precautionary label on the product packaging as well as your employer's safety practices. Take all necessary precautions to protect yourself and others.

See American National Standard (ANSI) Z49.1 "Safety in Welding and Cutting," ANSI/American Welding Society (AWS) F1.5 "Methods for Sampling and Analyzing Gases from Welding and Allied Processes," ANSI/AWS F1.1 "Methods for Sampling Airborne Particles Generated by Welding and Allied Processes," AWS F3.2M/F3.2 "Ventilation Guide for Weld Fumes," American Welding Society, 550 North Le Jeune Road, Miami, FL 33135. Safety and Health Fact Sheets available from AWS at www.aws.org. OSHA Publication 2206 (29 C.F.R. 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box

371954, Pittsburgh, PA 15250-7954. Threshold Limit Values and Biological Exposure Indices, American Conference of Governmental Hygienists (ACGIH), 6500 Glenway Ave., Cincinnati, OH 45211, USA. NFPA 51B "Standard for Fire Prevention During Welding, Cutting and Other Hot Work," published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169.
See CSA Standard CAN/CSA-W117.2-01 "Safety in Welding, Cutting and Allied Processes."

The following Risk Statements correspond with the columns labeled EU Classification 67/548/EEC within Section 3 of this safety data sheet. Take appropriate precautions and protective measures to eliminate or limit the associated hazard.

EU Directive 67/548/EEC-Risk Phrase Texts

R40/20 Possible risk of cancer through inhalation	R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation

Definitions pertaining to Section 8 & 16
CL (Ceiling Limit): The concentration that should not be exceeded during any part of the working exposure
HMIS: Hazardous Materials Identification System
IOELV: Indicative Occupational Exposure Limit Values – an exposure limit established by the European Union
NFPA: National Fire Protection Association
OEL (Occupation Exposure Limit): An occupational exposure limit that is an upper limit on the acceptable concentration of a hazardous substance in the workplace
PEL (Permissible Exposure Limit; OSHA (29 CFR 1910)): An exposure limit that is published and enforced by OSHA as a legal standard
STEL (Short Term Exposure Limit; OSHA (29 CFR 1910)): A 15 minute time weighted average exposure which should not be exceeded at any time during a work day
TLV (Threshold Limit Value; American Conference of Governmental Industrial Hygienists): Time Weighted Average (TWA) concentration for a normal 8-hour work day and a 40 hour work week to which nearly all workers may be repeatedly exposed without adverse effect

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

SDS Date of Preparation: September 1, 2015

The information and recommendations contained within this Safety Data Sheet (SDS) have been compiled from sources believed to be reliable and to represent the best information available to Welding Material Sales, Inc. at the time of issue. However, as the conditions or methods of use are beyond our control, Welding Material Sales, Inc. makes no guarantee or warranty as to the accuracy, suitability or completeness of the information contained herein. This SDS is intended solely for the user's health and safety education and not for contract specification purposes. No warranty, guarantee or representation is made by Welding Material Sales, Inc. nor does Welding Material Sales, Inc. assume any liability for results obtained or damages incurred in connection with any use of this information, nor can we assume customer liability.