



APPROVED MATERIAL
MAY 10 2013
MSDS # 10925
APPROVED BY *[Signature]*

Material Safety Data Sheet

Revision Date 18-Sep-2012

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code CW1533
Product name Carbon Arc Electrodes - 1/4"
Recommended Use Welding Rod

Supplier Cronatron, A Lawson Brand
 Lawson Products, Inc.
 8770 W. Bryn Mawr Ave.- Suite 900
 Chicago, IL 60631
 1-866-529-7664

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
 Hazardous fumes are generated by welding, soldering or brazing. Exposure to welding related processes, materials, fumes or gases might be linked to certain neurological and physical disorders and cancer. Protect yourself and others at all times. A NIOSH approved, proper fitting and well-maintained respirator should be worn at all times while using this product. Keep your head out of the fumes and gases. Use adequate ventilation and/or exhaust to keep fumes and gases from your breathing zone and the general area. Keep others without proper respiratory protection away from the fumes and gases and your work zone while using this product..

Aggravated Medical Conditions
 Pre-existing respiratory conditions may be aggravated by exposure to welding fumes. Pre-existing kidney and/or liver disorders may be aggravated by exposure to this product.

Principal Routes of Exposure
 Eyes. Skin. Inhalation of welding fumes.

General Welding Statement
 Fumes and gases can be dangerous to your health. Arc Rays can injure eyes and burn skin. Electric shock can kill. For electric shock, disconnect and turn off the power. . The ACGIH and OSHA have set the exposure level for welding fumes at 5 mg/m³. Train the welder not to touch live electrical parts and to insulate himself from work and ground . Welding fumes must be considered as possible carcinogens under OSHA 29 CFR 1910.1200.

Potential health effects

Eyes May cause the following effects: Causes burns. Irritation.

Skin Skin burns.

Inhalation Short term (acute) overexposure to welding fumes may result in the following effects. Inhalation of copper oxide fumes can cause metal fume fever. Initial symptoms of metal fume fever can include sweating, shivering, headache, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, and tiredness . Individuals with Wilson's Disease are more susceptible to copper poisoning . Prolonged or repeated breathing of graphite dust can result in pneumoconiosis.

Ingestion Not likely to occur.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Graphite	7782-42-5	< 99
Carbon	7440-44-0	< 30
Copper	7440-50-8	0.5-1.5

4. FIRST AID MEASURES

General advice If no detectable pulse, begin Cardio Pulmonary Resuscitation (CPR). . Employ First Aid techniques recommended by the Red Cross.

Eye contact Flush eyes with plenty of water. Seek medical attention if irritation persists.

Skin contact Wash off immediately with plenty of water. Seek medical attention if irritation persists.

Ingestion No specific treatment is necessary since this material is not likely to be hazardous by ingestion.

Inhalation If breathing is difficult, give oxygen. Administer artificial respiration if not breathing. Call a physician immediately.

5. FIRE FIGHTING MEASURES

Flash point °C Not Applicable
Flash point °F Not Applicable
Method Not Applicable

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper No data available
Lower No data available

Suitable extinguishing media
 Water. Carbon dioxide (CO2). Dry chemical powder.

Extinguishing media which must NOT be used for safety reasons
None .

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

Fire and Explosion Hazards
Product is nonflammable and nonexplosive under normal conditions of use . Welding arcs and sparks can ignite combustibles. Refer to American National Standard Z49.1 for fire prevention during welding.

Sensitivity to shock
No information available.

Sensitivity to static discharge
No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up
Collect and contain for disposal.

7. HANDLING AND STORAGE

Handling
Use normal safe handling procedures. Refer to American National Standard Z49.1 for fire prevention during welding.

Storage
No information available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Carbon	-	-	-	-
Graphite	15 mg/m ³	-	2 mg/m ³	-
Copper	0.1 mg/m ³	-	0.2 mg/m ³ 1 mg/m ³	-

Ventilation and Environmental Controls
Use enough ventilation, local exhaust at the work area, general, or both, to keep below the TLV's in the worker's breathing zone and the general area.

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

Respiratory protection
Use respirable fume respirator (P100) or supplied air when welding in confined spaces, or where local exhaust does not keep the exposure below TLV. Follow OSHA respirator regulations (29 CFR 1910.134) and if necessary, wear a MSHA/NIOSH approved respirator. Train welder to keep head out of fumes.

Hand Protection
Welder's gloves. Leather gloves.

Eye protection
Wear helmet or face shield with filter lens. As a rule of thumb, start with a shade which is too dark to see the work area. Then go to the next lighter shade which gives sufficient view of the work area . Provide protective screens and flash goggles,if necessary, to shield others.

Hearing Protection
Ear plugs should be worn

Skin and body protection
Sufficient to provide protection from radiation,heat, sparks and electrical shock.May include arm and shoulder protectors,aprons and dark substantial clothing. See ANSI Z49.1.

Other Protective Equipment
Wear head, hand and body protection which help prevent injury from radiation, sparks, heat, and electrical shock. See ANSI Z49.1 .

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Solid
Color	Black / Copper
Odor	None
Odor Threshold	No information available
pH	No data available
Specific Gravity	1.9-2.3
Vapor pressure	Not Applicable
Vapor density	Not Applicable
Evaporation Rate	Not Applicable
Water solubility	Insoluble
Partition Coefficient (n-octanol/water)	No data available
Boiling point/range °C	2300
Boiling point/range °F	4172
Melting point/range °C	1803
Melting point/range °F	3277
Flash point °C	Not Applicable
Flash point °F	Not Applicable

10. STABILITY AND REACTIVITY

Stability
Stable

Conditions to avoid
None known.

Incompatibility
None known.

Hazardous Decomposition Products

Welding fumes cannot be classified simply. Their composition and quantity are dependent upon the metal being welded, the process, procedures and electrodes being used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include; . Coatings on the metal being welded (such as paint, plating, or galvanizing), number of welders and volume of work area . Contaminants in the atmosphere such as chlorinated hydrocarbon vapors from cleaning and degreasing operations . The amount and type of ventilation, the position of the welder's head with respect to the fume plume . When the electrode is consumed, the fume and gas decomposition products are different in percent and form from the ingredients listed in Section 3. Decomposition products include those originating from the volatilization, reaction or oxidation of the wire or rod plus those from the base metal and coating. Reasonably expected decomposition products from normal use of these products include the oxides of the material listed in the ingredients section, as well as carbon monoxide, carbon dioxide, ozone and nitrogen oxides. The concentration of a given fume or gas component may decrease or increase by many times the original concentration in the electrode. One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet, if worn, or in the worker's breathing zone. See ANSI/AWS F1.1.

Polymerization
Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION

Component Information

Chemical Name	LD50 (oral, rat)	LD50 (dermal, rat/rabbit)	LC50 (Inhalation, rat)
Carbon 7440-44-0	10000 mg/kg	-	-
Graphite 7782-42-5	-	-	-
Copper 7440-50-8	-	-	-

Synergistic Products None known

Specific Hazards Copper dust and fume affect the respiratory system, lungs, skin, liver and eyes.

Potential health effects

Sensitization May cause sensitization of susceptible persons..

Chronic toxicity See Section 2 .

Mutagenic effects None known .

Teratogenic effects None known .

Reproductive toxicity None known .

Target Organ Effects None Known.

Carcinogenic effects See table below

Chemical Name	ACGIH OEL - Carcinogens	IARC	NTP - Known Carcinogens	NTP - Suspected Human Carcinogens	OSHA RTK Carcinogens
Carbon	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Graphite	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Copper	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

12. ECOLOGICAL INFORMATION

Copper
Water Flea Data
Daphnia magna EC50=0.03 mg/L (48 h)

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products
Can be landfilled or incinerated, when in compliance with local regulations. Dispose of all product, residues and clean-up materials in accordance with local, state, and federal regulations.

14. TRANSPORTATION INFORMATION

DOT
Not Regulated.

TDG
Not Regulated

15. REGULATORY INFORMATION

Chemical Name	US EPA SARA 313 Emission Reporting
Copper	Listed

State Regulations

Chemical Name	New Jersey - RTK	Pennsylvania - RTK	California Prop. 65
Carbon	Not Listed	Not Listed	Not Listed
Graphite	Not Listed	Listed	Not Listed
Copper	Not Listed	Listed	Not Listed

International Inventories

Product code CW1533

Product name Carbon Arc
Electrodes - 1/4"

Chemical Name	EINECS	DSL	NDSL	TSCA
Carbon	X	X	-	X
Graphite	X	X	-	X
Copper	X	X	-	X

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

Prepared By

V. Shargorodsky, Regulatory Affairs
Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.