

## PRODUCT SAFETY DATA SHEET FOR ARCAIR AIR CARBON ARC ELECTRODES

### 1. IDENTIFICATION OF PRODUCT

Product Name - Arcair Air Carbon Arc Electrodes  
Intended Use - Arc metal removal

### 2. HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	% / RANGE	CAS NUMBER	OSHA PEL	ACGIH TLV
Graphite, Synthetic Graphite,	20-90 *	7440-44-0	5mg/M3	3.5mg/M3
Natural Copper	20-90 *	7782-42-5	15 mppcf	2.5mg/M3
	10-30	7440-50-8	0.1mg/M3	0.1mg/M3 (fume)

Note : Information for Welding Fume 5mg/M3

HEALTH AND PHYSICAL HAZARDS ASSOCIATED WITH AIR CARBON ARC ELECTRODES ARE ATTRIBUTABLE TO THE FUMES GENERATED WHEN THE ELECTRODES ARE USED AND CONSUMED.

Quantative analysis detected no trace of cadmium or mercury.

Section 313 – Supplier Information

THIS PRODUCT DOES (X) DOES NOT ( ) CONTAIN TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 AND OF 40 CFR 372.

CAS NUMBER	CHEMICAL NAME	%
7440-50-8	Copper	<30

THIS INFORMATION MUST BE INCLUDED IN ALL MSDS's THAT ARE COPIED AND DISTRIBUTED FOR THIS PRODUCT.

- BATCH PERCENTAGES VARY GREATLY DEPENDING UPON AVAILABILITY.

### 3. PHYSICAL DATA

PHYSICAL STATE : Solid  
ODOUR AND APPEARANCE : No notable odour, copper coated black rod  
VAPOUR PRESSURE (mm Hg) : Not Applicable  
VAPOUR DENSITY (air=1) : Not Applicable  
EVAPORATION RATE : Not Applicable  
BOILING POINT (F/C) : Not Applicable  
FREEZING POINT (F/C) : Not Applicable  
pH : Not Applicable  
SPECIFIC GRAVITY : Not Applicable  
SOLUBILITY : Not Soluble

### 4. FIRE AND EXPLOSION DATA

FLAMMABILITY : Yes ( ) No (X)  
IF YES, MEANS OF EXTINCTION : Not Flammable  
FLASHPOINT (F/C) AND METHOD : Not Applicable  
FLAMMABLE LIMIT : Not Applicable  
LEL : Not Applicable  
UEL : Not Applicable  
UNUSUAL FIRE AND EXPLOSION HAZARDS : None

N.F.P.A. RATING SYSTEM :

0 – INSIGNIFICANT; 1 – SLIGHT; 2 – MODERATE;  
3 – HIGH; 4 – EXTREME.  
Health = 1 Flammability = 0 Reactivity = 0 Special = None

WHMIS CLASSIFICATION:

CLASS "D" DIVISION 2 SUB-DIVISION "G"

DOT HAZARD CLASS : NOT REQUIRED.

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### 5. REACTIVITY DATA

CHEMICAL STABILITY : YES (X) No ( )  
IF NO, CONDITIONS TO AVOID : Not Applicable  
INCOMPATIBILITY WITH OTHER SUBSTANCES : Yes ( ) No (X)  
IF YES, WHICH ONES ? : None Known  
HAZARDOUS POLYMERIZATION : Will Occur ( ) Will not occur (X)  
CONDITIONS TO AVOID : Not Applicable  
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, traces of copper fume  
(ozone, nitrogen oxide from the electric arc and UV rays).

### 6. HEALTH HAZARD DATA

ROUTE OF ENTRY :

SKIN CONTACT ( )	SKIN ABSORPTION ( )	EYE CONTACT ( )
INHALATION (X)	INGESTION ( )	UV EXPOSURE (X)

EFFECTS OF ACUTE/CHRONIC EXPOSURE TO PRODUCT:

FUME : Bronchitis, Lung deposits and tissue damage which may be irreversible.  
Exposure to ultra-violet arc rays can result in kerato conjunctivitis, causing inflammation,  
blurred vision, headache – “sunburn”.

TOXICITY: CARBON: Intravenous, mouse	LD50 : 440 Mg/Kg
COPPER (fume) ; Human, Oral	LDLo: 12 Oug/kg
REPRODUCTION: CARBON: Subcutaneous, rat	TDLo : 167Mg/Kg (8D preg)
COPPER: Oral, rat	TDLo: 121Oug/Kg (35w pre)*

CARCINOGENICITY: Not currently listed

SIGNS AND SYMPTOMS OF EXPOSURE :

Breathing difficulty, headache, nausea, dryness or irritation of nose, throat, eyes. Burning sensation of skin or eyes.  
Unconsciousness.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE :

Respiratory problems, erythmas.

EMERGENCY AND FIRST AID PROCEDURES :

Remove to fresh air. If breathing impaired, assisted respiration may be required. Treat UV exposure similar to severe sunburn.  
Seek medical attention.

### 7. PRECAUTIONS FOR SAFE HANDLING AND USE

LEAK AND SPILL PROCEDURE : Sweep or pick up. Be alert to ‘hot ends’.

WASTE DISPOSAL METHOD : Solid landfill if local regulations allow.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING : Store in dry area. Electrodes exposed to moisture may  
explode violently if used. Dry moist rods by baking at 300°F for ten hours.

OTHER PRECAUTIONS : Read and understand ‘American National Standard Z49.1’;  
subpart Q of OSHA 29 CFR 1910.252;

‘Safety in Welding and Cutting’ by the American Welding Society.

CAUTION : Use in confined areas can result in carbon monoxide poisoning/death. Air supplied respirator is recommended when  
used indoors.

### 8. CONTROL MEASURES

RESPIRATORY PROTECTION : Air supplied or fume respirator should be used if ventilation is insufficient.

GLOVES : Welders	RESPIRATOR : See above	EYE : Face shield or welders helmet with #12 or darker lens
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FOOTWEAR: Suitable for metal working	CLOTHING: Dark, substantial aprons, etc.
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OTHER : See Z49.1

VENTILATION : Local exhaust as required to reduce fumes generated by each specific application below ACGIH TLV.

MECHANICAL : See Ventilation

OTHER : Air sampling to determine corrective measures

WORK/HYGIENIC PRACTICES : Operator trained to avoid electrical shock and UV ray exposure.

## **PRODUCT SAFETY DATA SHEET FOR ARCAIR AIR CARBON ARC ELECTRODES**

### REFERENCES :

- 'Chemical Guide to OSHA Hazard Communication Standard' First Edition.
- 'Handbook of Toxic and Hazardous Chemicals and Carcinogens' Second Edition.
- 'Registry of Toxic Effects of Chemical Substances'
- 'NIOSH Pocket Guide to Chemical Hazards' June 1994.

THIS DATA IS OFFERED IN GOOD FAITH AS TYPICAL VALUES.

THIS IS NEITHER AN EXPRESSED NOR IMPLIED PRODUCT SPECIFICATION.

RECOMMENDED HANDLING PROCEDURES AND HYGIENE ARE BELIEVED TO BE ACCURATE, HOWEVER, THESE RECOMMENDATIONS SHOULD BE REVIEWED IN THE SPECIFIC CONTEXT OF INTENDED USE AND DETERMINED APPROPRIATE BY THE USER.