

LITHCO MATERIAL SAFETY DATA SHEET

SECTION I: PRODUCT IDENTIFICATION

TRADE NAME (as labeled) Lithco BriteArc™ Carbon Arcs

MANUFACTURER'S NAME: Lithco, Inc. • 9449 Jefferson Blvd. • Culver City, CA 90232-2913

PHONE NUMBER FOR ADDITIONAL INFORMATION: (310) 559-7770 or (800) 454-8426

FAX NUMBER FOR ADDITIONAL INFORMATION: (310) 559-6908 or (888) 454-8426

EMERGENCY INFORMATION: For chemical emergency, spill, leak, fire, exposure or accident call Infotrac, day or night, at (800) 535-5053.

DATE PREPARED OR REVISED: 3/31/03 (Replaces 2/28/03)

PREPARED BY (optional):

SECTION II: HAZARDOUS INGREDIENTS

Chemical Names	CAS Numbers	%	EXPOSURE LIMITS		
			ACGIH TLV	OSHA PEL	OTHER
Synthetic Graphite	7440-44-0	5 - 10	2 mg/m ³	15 mg/m ³	5 mg/m ³ (respirable fraction)
Carbon	7782-42-5	10 - 40	2 mg/m ³	15 mg/m ³	N/A
Rare Earth Fluorides	68188-85-2	10 - 20	2.5 mg/m ³ *	2.5 mg/m ³ *	*Both TLV & PEL as fluoride
Cerium Oxide	1306-38-3	0 - 10	N/A	N/A	N/A
Tungsten Oxide	1314-35-8	0 - 5	5 mg/m ³	5 mg/m ³	N/A
Copper	7440-50-8	10 - 20	0.2 mg/m ³ fume	0.1 mg/m ³ fume	1.0 mg/m ³ dust

HMS RATING: Health: N.D. Fire: N.D. Reactivity: N.D. Personal protection: N.D.

SECTION III: PHYSICAL PROPERTIES

VAPOR DENSITY (AIR = 1): N/A

MELTING POINT/RANGE: N/A

SPECIFIC GRAVITY: N/A

BOILING POINT/RANGE: N/A ° F

SOLUBILITY IN WATER: Nil

EVAPORATION RATE (BuAc = 1): N/A

VAPOR PRESSURE, mm Hg @ 20 degrees C: N/A

APPEARANCE AND ODOR: Copper coated black rods, no odor

This product contains 0 % VOC by formulation. VOC = 0 LB/GAL or 0 GM/LITER.

This product is not photochemically reactive.

SECTION IV: FIRE AND EXPLOSION

FLASH POINT, degrees F. (give method): N/A

AUTO-IGNITION TEMPERATURE, degrees F: N/A

FLAMMABLE LIMITS IN AIR (VOLUME %), LOWER N/A % UPPER N/A%

FIRE EXTINGUISHING MATERIALS: Product is non-combustible. The following do not apply.

WATER SPRAY: N/A	FOAM: N/A	CARBON DIOXIDE: N/A	DRY CHEMICAL: N/A	OTHER: N/A
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SPECIAL FIRE FIGHTING PROCEDURES: Fire fighting personnel should wear full bunker gear with NIOSH approved SCBA.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Material is typically non-combustible. Temperature of the arc is sufficient to ignite surrounding materials.

This form complies with and is essentially similar to OSHA Form 174 as specified in 29CFR 1910.1200 (Federal OSHA Hazard Communication Standard) and complies with requirements of CAL/OSHA.

SECTION V: HEALTH HAZARD INFORMATION

SYMPTOMS OF OVEREXPOSURE FOR EACH POTENTIAL ROUTE OF EXPOSURE

INHALED: Prolonged breathing of fumes can cause pneumoconiosis.

CONTACT WITH SKIN OR EYES: Cold arcs present no hazard. Contact with hot arc can cause severe burns. Electric shock from carbon arcs can be fatal. Arc light can cause eye and skin burns.

ABSORBED THROUGH SKIN: Not a route of exposure.

SWALLOWED: Not a route of exposure.

HEALTH EFFECTS OR RISKS FROM EXPOSURE (Explain in lay terms)

ACUTE: Burns to skin. Damage to eyes from viewing arc light without special filters.

CHRONIC: Prolonged breathing of fumes can cause pneumoconiosis.

FIRST AID EMERGENCY PROCEDURES

EYE CONTACT: For arc light burns, apply cold packs. Get immediate medical attention.

SKIN CONTACT: For arc light burns, apply cold packs. Seek medical attention if irritation persists.

INHALED: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration or CPR if not breathing. Seek medical attention.

SWALLOWED: N/A

ELECTRICAL SHOCK: Disconnect electricity. If victim is not breathing and/or no pulse can be found, begin CPR. Call 911 immediately.

SUSPECTED CANCER AGENT?

NO. THIS PRODUCT'S INGREDIENTS ARE NOT FOUND IN THE LISTS BELOW.

YES. FEDERAL OSHA NTP IARC

California employers using CAL/OSHA regulated carcinogens must register with CAL/OSHA. The CAL/OSHA and Federal OSHA carcinogen lists are similar.

CALIFORNIA PROP. 65 STATEMENT

THIS PRODUCT DOES NOT CONTAIN CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR CAUSE REPRODUCTIVE HARM.

PRE-EXISTING MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing respiratory problems may be aggravated by use of this product.

SECTION VI: REACTIVITY DATA

PRODUCT IS XXX STABLE ____ UNSTABLE

CONDITIONS TO AVOID: N/A

INCOMPATIBILITY (materials to avoid): N/A

HAZARDOUS DECOMPOSITION PRODUCTS, INCLUDING COMBUSTION: Carbon monoxide, carbon dioxide, unburned hydrocarbons, ozone, oxides of nitrogen and fumes and dust of the hazardous ingredients and their oxides listed in Section II.

HAZARDOUS POLYMERIZATION ____ MAY OCCUR XXX WILL NOT OCCUR.

CONDITIONS TO AVOID: None under normal product use.

SECTION VII: SPILL, LEAK AND DISPOSAL PROCEDURES

SPILL RESPONSE PROCEDURES, INCLUDING EMPLOYEE PROTECTION: Product is a solid. Follow good housekeeping practices.

PREPARING WASTES FOR DISPOSAL (containers, neutralization, etc.): Place in non-leaking containers suitable for material and certified for transporting hazardous waste.

NOTE: DISPOSE OF ALL WASTES IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION VIII: SPECIAL HANDLING INFORMATION

VENTILATION AND ENGINEERING CONTROLS: MANDATORY - Provide ventilation to keep airborne concentration below TLV.

RESPIRATORY PROTECTION (TYPE): NIOSH/MCA approved for concentrations above TLV.

EYE PROTECTION (TYPE): Light filter needed when viewing arc.

GLOVES (SPECIFY MATERIAL): N/A.

OTHER CLOTHING AND EQUIPMENT: N/A

WORK PRACTICES, HYGIENIC PRACTICES: Wash hands thoroughly after use and before eating, drinking, smoking or using the toilet.

OTHER HANDLING AND STORAGE REQUIREMENTS: Do not handle carbons until cold after use in arc. Do not use near sources of ignition. Avoid prolonged or repeated breathing of vapors. Store in a dry location. For industrial use only.

PROTECTIVE MEASURES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Use protective gear as indicated above. Do not start electrical equipment in presence of vapors. Do not touch live electrical parts.

SECTION IX: SHIPPING INFORMATION

FULL DOT SHIPPING NAME: Not Hazardous
DOT HAZARD CLASS: N/A **PACKING GROUP:** N/A **UN/NA NUMBER:** N/A

SECTION X: ENVIRONMENTAL STATEMENT

THIS PRODUCT IS SUBJECT TO REPORTING ACCORDING TO SARA, TITLE III (SUPERFUND AMENDMENT).

The following materials are reportable:

Hazardous Material	CAS Number	%
Copper	7440-50-8	<15

SECTION XI: SUPPLEMENTAL HEALTH INFORMATION

In the operation of the carbon arc, certain dusts and gases are given off. The gases in high enough concentrations are capable of causing injury from a long period of exposure. Research over the years, based upon animal experimentations and actual operating conditions of these arcs, has demonstrated that while these gases and dusts are evolved, they do not constitute a hazard under proper operating conditions.

GASES: When the carbon is operated, the usual gases given off are carbon dioxide, carbon monoxide, ozone and nitrogen oxides in the form of NO₂. Studies have failed to present evidence of hydrocyanic acid, cyanogens, hydrogen sulfide, acetylene, phosphine, arsine, stibine, chlorine and other halogens. The only gaseous substances considered to be of consequence are the oxides of nitrogen and ozone. Their exposure limits are as follows:

Hazardous Material	CAS #	OSHA PEL	OSHA STEL	ACGIH TLV	ACGIH STEL
Nitrogen Dioxide	10102-44-0	N.E.	1.0 ppm	3.0 ppm	5 ppm
Ozone	10028-15-6	0.1 ppm	0.3 ppm	0.1 ppm ceiling	N.E.

Dusts: The chemical composition of the ash produced from the burning carbon electrodes shows that only 1.79% of the flue condensate is silicon dioxide. Rare-earth oxides account for 6.7%, and there are minor amounts of ferric, calcium and potassium oxides. Fluorine is present, combined with the rare-earths as very insoluble fluorides.

Concentrations of gases and dusts may not exceed average limits if the room is well ventilated. However, most carbon arc lamps are equipped with a flue vent and venting to the outside through an exhaust fan is strongly recommended. If concentrations of gases or dusts above TLVs are found to exist, the fumes must be vented to the outside to avoid exposure greater than the allowable TLVs.

Information contained in this safety data sheet is drawn from recognized sources and is believed to be accurate and correct as of the date of issue. It is presented for your evaluation of the suitability of the product and for compliance with federal and state regulations. No claims are made for the accuracy, completeness and reliability of the information contained herein.