

Section 1. Chemical Product and Company Identification

Product name	Classification	Classification
Blueshield: Gouging Carbon	CSA: -	AWS: -
Description	: Electrodes for metal removal.	Generic Code : AL-AIR-ARC
In case of emergency	: 1-514-878-1667	Date of issue : 01/15/2011
Supplier	: Air Liquide Canada Inc. 1250, René-Lévesque West, Suite 1700 Montreal, QC H3B 5E6	

Section 2. Hazards Identification

Physical state and Appearance	: Solid.
Emergency overview	: These hazards relate to welding fumes (electrodes in use) and not to the electrodes as sold. WARNING! ELECTRIC SHOCK can kill. FUMES AND GASES can be dangerous to your health. ARC RAYS can injure eyes and burn skin. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.
Routes of entry	: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Potential acute health effects	
Eyes	: Slightly irritating to the eyes.
Skin	: Slightly irritating to the skin.
Inhalation	: Slightly irritating to the respiratory system.
Ingestion	: Since the product (welding fumes) is a gas and that it is mostly probable that it will be inhaled more than ingested, please consider first to look at the preventive measures in case of inhalation.
Potential chronic health effects	: Carcinogenic effects* : Classified 1 by NTP, + by NIOSH [Graphite]. Classified A2 by ACGIH, 2A by IARC [Graphite]. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available.
Medical conditions aggravated by over-exposure	: Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

(* See Abbreviations (section 16).

Section 3. Composition, Information on Ingredients

Name	CAS #	% by weight	UN number
Charcoal	7440-44-0	20 - 90	UN1361
Graphite	7782-42-5	20 - 90	Not regulated.
Copper	7440-50-8	10 - 30	Not regulated.

The fumes emitted by the electrodes, in use, are hazardous. This MSDS is written for workers using these electrodes.

See Section 8 for Exposure Limits of the oxides found in the welding fumes.

Section 4. First Aid Measures

Eye contact	: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention.
Skin contact	: Wash with soap and water. Get medical attention if irritation develops.
Inhalation	: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately.

Section 5. Fire Fighting Measures

Flammability of the product	: Non-flammable. Emits toxic fumes when heated.
Explosibility	: Non-explosive in the presence of open flames, sparks and static discharge, of shocks, of heat.
Fire-fighting media and instructions	: Use extinguishing media suitable for surrounding materials.

Section 6. Accidental Release Measures

Small/Large Spill and Leak : Use appropriate tools to transfer the spilled solid to a convenient waste disposal container.

Section 7. Handling and Storage

Handling : Avoid breathing dusts, vapors or fumes from burning materials. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Do not ingest. Keep container closed. Wash thoroughly after handling.

Storage : Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls, Personal Protection

Engineering controls : Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal protection

Eyes : Face shield.

Body : Full suit. (Fire resistant.)

Respiratory : Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear a canister breathing apparatus (respirator) or a supplied-air respirator, when required, to weld in a confined space or when room exhaust or ventilation does not keep exposure below the acceptable values.

Hands : Gloves. (Fire resistant.)

Feet : Metal cap, safety boots.

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	
Natural graphite	US ACGIH 2/2010	-	2	-	-	-	-	-	-	-	[a][A]
	AB 4/2009	-	2	-	-	-	-	-	-	-	[b]
	BC 10/2009	-	2	-	-	-	-	-	-	-	[c]
	ON 7/2010	-	2	-	-	-	-	-	-	-	[a]
	QC 6/2008	-	2	-	-	-	-	-	-	-	[d]
Copper	US ACGIH 2/2010	-	0.2	-	-	-	-	-	-	-	[e]
		-	1	-	-	-	-	-	-	-	
Copper, as Cu	AB 4/2009	-	1	-	-	-	-	-	-	-	[f][B]
	BC 10/2009	-	0.2	-	-	-	-	-	-	-	[e][B]
		-	1	-	-	-	-	-	-	-	[g][B]
Copper	ON 7/2010	-	0.2	-	-	-	-	-	-	-	[e][B]
		-	1	-	-	-	-	-	-	-	[h]
Copper, as Cu	QC 6/2008	-	0.2	-	-	-	-	-	-	-	[i][B]
		-	1	-	-	-	-	-	-	-	[j][B]
Carbon		-	2	-	-	-	-	-	-	-	[d]

Form: [a]Respirable fraction; see Appendix C [b]Respirable (all forms except graphite fibres) [c]Respirable [d]Respirable dust. [e]Fume [f]Dusts and Mists [g]Dusts and mists [h]dust and mists [i]dusts & mists [j]fume

Notes: [A]Respirable fraction; see Appendix C, paragraph C. [B]as Cu

Section 9. Physical and Chemical Properties

Physical state and Appearance : Solid.

Color : Black.

Odor : Odorless.

Melting/freezing point : 1082.85°C (1981.1°F) This is based on data for the following ingredient: Copper.

Specific gravity : Weighted average: 2.05 (Water = 1)

Solubility : Insoluble in the following materials: cold water, hot water.

Section 10. Stability and Reactivity

Stability and reactivity : The product is stable.

Hazardous decomposition products : Metallic oxides. Carbon oxides (CO, CO₂). Arc radiation can emit ozone and nitrogen oxides.

Hazardous polymerization : Will not occur.

Section 11. Toxicological Information

Chronic effects and other toxic effects on humans : CARCINOGENIC EFFECTS: See Section 2.
Contains material which causes damage to the following organs: kidneys, liver, cardiovascular system, upper respiratory tract, skin, eye, lens or cornea.

Contains material which may cause damage to the following organs: lungs.

Acute exposure to welding fumes may result in discomfort such as: dizziness, nausea or dryness of nose, throat or the eyes.

Section 12. Ecological Information

Ecotoxicity data

Product/ingredient name	Result	Species	Exposure
Copper	Acute EC50 4.1 ug/L Fresh water	Crustaceans - Simocephalus vetulus - Juvenile (Fledgling, Hatchling, Weanling) - <48 hours	48 hours
	Acute EC50 1 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours	48 hours
	Acute LC50 9.4 ug/L Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - <1 months	96 hours
	Chronic NOEC 7.43 ug/L Fresh water	Fish - Salmo trutta - IMMATURE - 14 cm - 26.3 g	4 days

Products of degradation : Some metallic oxides.

Section 13. Disposal Considerations

Waste information : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Consult your local or regional authorities.

Section 14. Transport Information

No transport class is found applicable to this product.

Section 15. Regulatory Information

HCS Classification : These hazards relate to welding fumes (electrodes in use) and not to the electrodes as sold.

Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b):** All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Graphite, synthetic; Graphite; Copper

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Graphite, synthetic: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Graphite: Immediate (acute) health hazard; Copper: Immediate (acute) health hazard

Clean Water Act (CWA) 307: Copper

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

SARA 313

Form R - Reporting requirements : Copper 15 - 30

Supplier notification : Copper 15 - 30

State regulations : **Massachusetts** : The following components are listed: GRAPHITE (NATURAL)DUST; COPPER

New York : The following components are listed: Copper

New Jersey : The following components are listed: GRAPHITE (NATURAL); GRAPHITE; COPPER

Pennsylvania : The following components are listed: GRAPHITE; COPPER FUME

California prop. 65: No products were found.

WHMIS (Canada) : These hazards relate to welding fumes (electrodes in use) and not to the electrodes as sold.

Class D-2A: Material causing other toxic effects (Very toxic).

Class D-2B: Material causing other toxic effects (Toxic).

CEPA Toxic substances: None of the components are listed.

Canadian ARET: None of the components are listed.

Canadian NPRI: The following components are listed: Copper

Alberta Designated Substances: None of the components are listed.

Ontario Designated Substances: None of the components are listed.

Quebec Designated Substances: None of the components are listed.

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

Section 16. Other Information

- Label requirements** : See Section 2.
- Hazardous Material Information System (U.S.A.)** : Health: 2* Fire: 0 Reactivity: 0
- National Fire Protection Association (U.S.A.)** : Health: 2 Fire: 0 Reactivity: 0 Other: None
- References** : - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005. - CRC Handbook of chemistry and physics, 67th edition. CRC Press inc., Boca Raton, Florida. - Manufacturer's Material Safety Data Sheet. ANSI Z400.1, MSDS Standard, 2004. ANSI Z49.1 Safety in Welding and Cutting, The American Welding Society, P.O. Box 351040, Miami, FL 33135. Canadian Standard Association, CSA W117.2, Code for Safety in Welding and Cutting, 2003.
- Abbreviations and acronyms** : **ACGIH: American Conference of Governmental Industrial Hygiene.**
ACGIH A2--Suspected Human Carcinogen.
IARC: International Agency for Research on Cancer.
IARC 2A: Suspected for human.
NIOSH: National Institute of Occupational Safety and Health.
NIOSH +: Proven.
NTP: National Toxicology program.
NTP 1: Known to be human carcinogens.
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