

Section 1. Chemical Product and Company Identification

Product name	Classification	Classification
Blueshield	CSA:	AWS:
Gouging Carbon	-	-
Description	: Electrodes for metal removal.	Generic Code : AL-AIR-ARC
In case of emergency	: 1-514-878-1667	Date of issue : 01/13/2014
Supplier	: Air Liquide Canada Inc., 1250, René-Lévesque Ouest, Suite 1700, Montréal, 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 MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
 Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Routes of entry : Dermal contact. Eye contact. Inhalation.

Potential acute health effects

Eyes	: Slightly hazardous by the following route of exposure: of eye contact (irritant).
Skin	: Slightly hazardous by the following route of exposure: of skin contact (irritant).
Inhalation	: Slightly hazardous by the following route of exposure: of inhalation (lung irritant).
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.

APPROVED MATERIAL

SEP 15 2014

MSDS # 11303

APPROVED BY *[Signature]*

Potential chronic health effects :

Carcinogenicity

Not available.

Mutagenic effects Not available.

Teratogenic effects: Not available.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

(*) See Abbreviations (section 16).

Section 3. Composition, Information on Ingredients

Name	CAS #	% by weight	UN number
Carbon	7440-44-0	20 - 90	Not available.
Graphite	7782-42-5	20 - 90	Not available.
Copper	7440-50-8	10 - 30	UN3077

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. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
Skin contact	: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
Inhalation	: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Ingestion	: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5. Fire Fighting Measures

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

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 dust. Keep container closed. Use with adequate ventilation. Avoid contact of spilled material and runoff with soil and surface waterways.
 Storage : Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls, Personal Protection

Engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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
		ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	
Graphite	US ACGIH 6/2013	-	2	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	2	-	-	-	-	-	-	-	[b]
	BC 7/2013	-	2	-	-	-	-	-	-	-	[c]
	ON 1/2013	-	2	-	-	-	-	-	-	-	[a]
Copper, as Cu	QC 12/2012	-	2	-	-	-	-	-	-	-	[d]
	US ACGIH 6/2013	-	1	-	-	-	-	-	-	-	[e]
	US ACGIH 6/2013	-	0.2	-	-	-	-	-	-	-	[f]
	AB 4/2009	-	1	-	-	-	-	-	-	-	[g]
	BC 7/2013	-	0.2	-	-	-	-	-	-	-	[f]
Copper	ON 1/2013	-	1	-	-	-	-	-	-	-	[h]
	ON 1/2013	-	0.2	-	-	-	-	-	-	-	[f]
Copper, as Cu	QC 12/2012	-	1	-	-	-	-	-	-	-	[i]
	QC 12/2012	-	0.2	-	-	-	-	-	-	-	[j]
Carbon	QC 12/2012	-	2	-	-	-	-	-	-	-	[k]

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

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 and 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 support the production of ozone and nitrogen oxides.
 Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological Information

Chronic effects and other toxic effects on humans : **CARCINOGENIC EFFECTS:** Classified 3 (Possible for humans.) by European Union [Graphite]. Contains material which may cause damage to the following organs: kidneys, lungs, liver, gastrointestinal tract, cardiovascular system, upper respiratory tract, skin.
 Slightly hazardous by the following route of exposure: of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant).

Section 12. Ecological Information

Ecotoxicity data

Product/ingredient name	Result	Species	Exposure
Copper	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks

Products of degradation : Not applicable.

Section 13. Disposal Considerations

Waste information : Waste must be disposed of in accordance with federal, state and local environmental control regulations. Recycle, if possible. 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 : TSCA 8(a) CDR Exempt/Partial exemption: Not determined
 United States inventory (TSCA 8b): All components are listed or exempted.
 SARA 302/304: No products were found.
 SARA 311/312 Hazards identification: Delayed (chronic) health hazard
 Clean Water Act (CWA) 307: Copper

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Copper	7440-50-8	10 - 30
Supplier notification	Copper	7440-50-8	10 - 30

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

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

None of the components are listed.

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 (and its compounds)
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-A1-Confirmed Human Carcinogen.
ACGIH-A2-Suspected Human Carcinogen.
ACGIH-A3-Animal Carcinogen.
ACGIH-A4-Not Classifiable as a Human Carcinogen.
ACGIH-A5-Not suspected as a Human Carcinogen.
IARC: International Agency for Research on Cancer.
IARC 1: Proven.
IARC 2A: Probable for human.
IARC 2B: Possible for human.
IARC 3: Not classifiable for human.
NIOSH: National Institute of Occupational Safety and Health.
NIOSH +: Proven.
NIOSH: None.
EU: European Union
Carc. 1A : May cause cancer (Known)
Carc. 1B : May cause cancer (Presumed)
Carc. 2 : Suspected of causing cancer
NTP: National Toxicology program.
NTP 1: Known to be human carcinogens.
NTP 2: Reasonably Anticipated to be human carcinogens.

Responsible name : IHS

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Notice to reader

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