

## Section 1. Chemical Product and Company Identification

<b>Product name</b>	<b>Classification</b>	<b>Classification</b>
<b>Blueshield:</b>	<b>CSA:</b>	<b>AWS:</b>
SUPER BRONZE;	-	RCu Zn-C;
FL BRONZE;	-	RCu Zn-C;
Everdure 656;	-	ERCuSi-A;
<b>Description</b>	: BRAZING Copper-Based Rod and Copper Based Alloy.	<b>Generic Code</b> : AL-J-005-0
<b>In case of emergency</b>	: 1-514-878-1667	<b>Date of issue</b> : 01/30/2008
<b>Supplier</b>	: Air Liquide Canada Inc. 1250, René-Lévesque West, Suite 1700, Montreal, QC H3B 5E6	

## Section 2. Hazards Identification

<b>Physical state and Appearance</b>	: Solid.
<b>Emergency overview</b>	: These hazards relate to welding fumes (electrodes in use) and not to the electrodes as sold.  WARNING! VERY TOXIC TO AQUATIC ORGANISMS. CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LUNGS, GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYES, NOSE, SINUSES, LIVER. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED. Risk of cancer depends on duration and level of exposure. Avoid contact with skin and clothing. Wash thoroughly after handling. Avoid contact with eyes. Avoid breathing dusts. Avoid prolonged contact with skin. Use only with adequate ventilation.
<b>Routes of entry</b>	: Dermal contact. Eye contact. Inhalation.
<b>Potential acute health effects</b>	
<b>Eyes</b>	: Irritating to eyes.
<b>Skin</b>	: May cause skin sensitization.
<b>Inhalation</b>	: Hazardous by the following route of exposure: of inhalation. May cause respiratory tract irritation.
<b>Ingestion</b>	: Since the product (brazing vapors) 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.
<b>Potential chronic health effects</b>	: <b>Carcinogenic effects(*)</b> : Not classified or listed by IARC, NTP, OSHA and ACGIH. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available.
<b>Medical conditions aggravated by over-exposure</b>	: Repeated exposure to the vapors emitted while using this material may produce general deterioration of health.

(\*) See Abbreviations (section 16).

## Section 3. Composition, Information on Ingredients

Name	CAS #	% by weight	UN number
Copper	7440-50-8	93-97	Not applicable.
Manganese	7439-96-5	1-2	Not applicable.
Silicon Powder, Amorphous	7440-21-3	< 1	UN1346

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

<b>Eye contact</b>	: 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.
<b>Skin contact</b>	: Wash with soap and water. Get medical attention if irritation develops.
<b>Inhalation</b>	: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Ingestion</b>	: 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 the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts.
- 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 or vapors 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** : All filler metals in their original, unopened containers should be kept in a relatively dry storage area at temperatures between 15°C (60°F) and 30°C (80°F) and 50% maximum relative humidity.

## Section 8. Exposure Controls, Personal Protection

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

### Personal protection

- Eyes** : Safety glasses with side shields having minimum shade protection.
- Body** : Full suit. (Fire resistant.)
- Respiratory** : Vapor respirator.
- Hands** : Gloves. (Fire resistant.)
- Feet** : Metal cap, safety boots.

### Exposure limits

#### Product name

#### Exposure limits

Copper	ACGIH TLV (United States, 1/2006). TWA: 1 mg/m <sup>3</sup> , (Cu) 8 hour(s). OSHA PEL (United States, 11/2006). TWA: 1 mg/m <sup>3</sup> 8 hour(s). Form: Dust NIOSH REL (United States, 12/2001). TWA: 1 mg/m <sup>3</sup> 10 hour(s). Form: Dust
Manganese	ACGIH TLV (United States, 1/2006). TWA: 0.2 mg/m <sup>3</sup> , (Mn) 8 hour(s). OSHA PEL (United States, 11/2006). CEIL: 5 mg/m <sup>3</sup> , (Mn) Form: Fume
Silicium Powder, Amorphous	NIOSH REL (United States, 12/2001). TWA: 10 mg/m <sup>3</sup> 10 hour(s). Form: Total OSHA PEL (United States, 11/2006). TWA: 5 mg/m <sup>3</sup> 8 hour(s). Form: Respirable fraction

*Consult local authorities for acceptable exposure limits.*

## Section 9. Physical and Chemical Properties

- Physical state and Appearance** : Solid.
- Color** : Brass and green.
- Odor** : Odorless.
- Melting/freezing point** : 871°C (1599.8°F)
- Specific gravity** : Not available.
- 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** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## Section 11. Toxicological Information

### Additional Toxicity data

<u>Ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Silicon Powder, Amorphous	LD50	3160 mg/kg	Oral	Rat

- Chronic effects and other toxic effects on humans** : **CARCINOGENIC EFFECTS:** See Section 2.  
Contains material which causes damage to the following organs: skin, eye, lens or cornea.  
Contains material which may cause damage to the following organs: kidneys, lungs, liver, upper respiratory tract.  
Acute exposure to brazing vapors may result in discomfort such as: dizziness, nausea or dryness of nose, throat or the eyes.

## Section 12. Ecological Information

### Ecotoxicity data

<u>Ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
Copper	Daphnia magna (EC50)	48 hour(s)	0.0318 mg/l
Manganese	Daphnia magna (EC50)	48 hour(s)	40 mg/l

**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. 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.

Irritating material  
Target organ effects

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

**Clean Water Act (CWA) 307**: Copper

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

**Clean Air Act (CAA) 112 accidental release prevention**: 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 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**: Copper; Manganese

**SARA 311/312 MSDS distribution - chemical inventory - hazard identification**: Copper: Immediate (acute) health hazard;  
Manganese: reactive, Immediate (acute) health hazard, Delayed (chronic) health hazard

### SARA 313

**Form R - Reporting requirements** : Copper 93-97

Manganese 1-2

**Supplier notification** : Copper 93-97

Manganese 1-2

### State regulations

**Massachusetts Substances**: The following components are listed: Copper;Manganese

**New Jersey Hazardous Substances**: The following components are listed: Copper;Manganese

**New York Acutely Hazardous Substances**: The following components are listed: Copper

**Pennsylvania RTK Hazardous Substances**: The following components are listed: Copper;Manganese

**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;Manganese

**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 CPR and the MSDS contains all the information required by the CPR.

## 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 Z400.5, 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

**ACGIH**: American Conference of Governmental Industrial Hygiene.

**IARC**: International Agency for Research on Cancer.

**NIOSH**: National Institute of Occupational Safety and Health.

**OSHA**: Occupational Safety and Health Administration

**NTP**: National Toxicology program.

### Responsible name

: Atrion Regulatory Services, Inc.

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**Notice to reader**

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