

MATERIAL SAFETY DATA SHEET

For Welding Consumables and Related Products
Conforms to Hazard Communication Standard 29CFR 1910.1200

Date: 2010/01/01 MSDS No. 730

SECTION 1: IDENTIFICATION

Manufacturer/Supplier	
Product Identity	Bcup2, Bcup3, Bcup5, Bcup6
Product Name	Silver-Copper-Phosphorus Alloys
Emergency Telephone Number	

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	CAS No.	Chemical Composition %
Copper	7440-50-8	92.6
Phosphorus	7723-14-0	0.01-7.25
Silver	7440-22-4	0.9-99.8

SECTION 3: HADARDOUS IDENTIFICATION

Primary Routes of Entry: Ingestion, inhalation.

Eye Hazards: Eye contact with these products in finely-divided forms may cause irritation, conjunctivitis, ulceration of the cornea, and/or argyria, a permanent blue-gray discoloration of the eyes, skin, mucous membranes, and respiratory tract.

Skin Hazards: Skin contact with these products, particularly in finely-divided forms, may cause irritation, argyria, discoloration, and /or contact dermatitis.

Ingestion Hazards: Ingestion of these products in finely-divided forms may cause nausea, vomiting, and gastrointestinal irritation.

Inhalation Hazards: Inhalation of the components of these products is not know to present a significant risk to health when used according to instructions and with appropriate protective measures (see section #8). Inhalation of component elements has been reported to cause one or more of the following symptoms and effects upon excessively high or prolonged exposure:

Copper: Acute exposure may cause respiratory tract irritation, fever, muscle ache, chills, cough, weakness, and a metallic taste. Chronic exposure may damage the liver, kidney, spleen, pancreas and brain.

Phosphorus: The red form of phosphorus is stable and relatively non-toxic at room temperature. When heated in the presence of air, it is converted to phosphorus pentoxide, which is corrosive and irritating to the eyes, nose, throat, and mucous membranes.

Silver: Chronic exposure via inhalation may cause argyria.

SECTION 4: FIRST AID MEASURES

Eye: Flush affected areas with water for at least 15 minutes. Seek medical assistance if necessary.

Skin: Remove contaminated clothing. Wash affected area with large quantities of water for at least 15 minutes. Seek medical attention if necessary. Launder or dry-clean clothing before reuse.

Ingestion: If subject is conscious, induce vomiting. If unconscious or convulsive, seek immediate medial assistance.

Inhalation: If signs and symptoms of toxicity are observed, remove subject from area, administer oxygen, and seek medical attention. Keep the subject warm and at rest. Perform artificial respiration if breathing has stopped.

Note to Physician: None of the components are acutely toxic by ingestion, nor are they absorbed through the skin. Extensive or prolonged skin contact may cause dermatitis and/or argyria.

SECTION 5: FIREFIGHTING MEASURES

Flash Point: N/A °F N/A °C

Autoignition Point: N/A °F N/A °C

Flammability Class: N/A

Lower Explosive Limit: N/A

Upper Explosive Limit: N/A

Fire and Explosion Hazards: In finely-divided form, these products may ignite when exposed to flame or by reaction with incompatible materials (see Section #10). If present in a fire or explosion, they may emit fumes of the constituent metals, metal oxides, and/or phosphorus pentoxide.

Extinguishing Media: Use dry chemical. Do not use water.

Fire Fighting Instructions: If fighting a fire in which these products are present, wear a self-contained breathing apparatus with full face piece operated in pressure-demand or other positive pressure mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES

If a finely-divided form of product is spilled, clean up spillage so as to minimize dispersion of dust. Wet sweeping or vacuuming using HEPA filtration is recommended.

SECTION 7: HANDLING AND STORAGE

Handling Precautions: No special handling precautions are required.

Storage Precautions: Do not store in proximity to incompatible materials (see Section #10).

Work/Hygienic Practices: To minimize ingestion, wash hands and face before eating, drinking, applying cosmetics, or using tobacco.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use appropriate ventilation (e.g., dilution, local exhaust) adequate to maintain concentrations of all components to within their applicable standards.

Eye/Face Protection: Wear eye protection adequate to prevent eye contact with finely-divided product and Eye injury if products are used with a flame. Plastic-frame spectacles with side shields and filter lenses (shade #3 or #4) are recommended.

Skin Protection: Wear appropriate protective gloves and clothing to prevent skin injury if these products are used with a flame and/or for prolonged or repeated contact with finely-divided forms of product. Avoid flammable fabrics.

Respiratory Protection: If an exposure level exceeds an applicable exposure standard, use a NIOSH approved respirator having a configuration (type of face piece, filter media, assigned protection factor, etc.) appropriate to the concentration of the contaminant (s) generated. For guidance on selection and use of respiratory protection, consult American National Standard Z88.2 (ANSI, New York, NY 10036 USA).

Ingredients	Exposure Limits	
	OSHA PEL	ACGIH TLV's
Copper	0.1 mg/m ³ TWA (fume) 1 mg/m ³ TWA (dusts and mists)	0.2 mg/m ³ TWA (fume) 1 mg/m ³ TWA (dusts and mists)
Phosphorus	N/A	N/A
Silver	0.01 mg/m ³ TWA	0.1 mg/m ³ TWA (metal)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Odorless light-copper metals in form of wire, rod, strip, powder, tape, grain, or performed shapes.

Chemical type: Mixture

Physical State: Solid

Melting Point: >1190 °F; >645 °C

Specific Gravity: 7.8 - 10.5

Percent Volatiles: N/A

730-WMS

Vapor Pressure: N/A

Vapor Density: N/A

pH Factor: N/A

Solubility: Insoluble

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable

Hazardous Polymerization: Will not occur

Conditions to avoid (Stability)

Silver and copper can form unstable acetylides if in contact with acetylene gas.

Incompatible Materials: Strong oxidizers; ammonia; azides; nitric acid; ethylene imine; chlorine trifluoride; sulfuric acid; inorganic and organic peroxides; peroxyformic acid; oxalic acid; tartaric acid; 1-bromo-2-propyne; permonosulfuric acid; bromates, chlorates, and iodates of alkali and alkali earth metals; alkaline hydroxides.

Hazardous Decomposition Products: Heating to elevated temperatures may liberate metal/metal oxide fumes and/or phosphorus pentoxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Chronic/Carcinogenicity: The products contain no chemicals classified as potential or demonstrated carcinogens by IARC, NTP, or OSHA.

Conditions Aggravated By Overexposure: Pre-existing pulmonary diseases (e.g., bronchitis, asthma) may be aggravated by inhalation overexposure, particularly as fume. Chronic overexposure by inhalation and/or ingestion may aggravate pre-existing diseases of the liver, kidneys, gastrointestinal system, and nervous system.

Ingredients-Toxicological Data

Copper	LD50:	No data available	LC50:	No data available
Phosphorus	LD50:	>15,000 mg/kg (oral/rat)	LC50:	4,300 mg/m ³ for 1 hr (rat)
Silver	LD50:	>2000 mg/kg (oral/rat)	LC50:	No data available

SECTION 12: ECOLOGICAL INFORMATION

In their intended manner of use, these products should not be released into the environment, and adverse effects on ecosystems are not anticipated under recommended conditions of use, storage, and disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of unused or unusable products in accordance with applicable Federal, State/Provincial, and local regulations.

SECTION 14: TRANSPORT INFORMATION

These products are not hazardous Substances or Dangerous Goods per USDOT, TDG (Canada), IATA, or IMO regulations.

SECTION 15: REGULATORY INFORMATION

SARA Hazard Classes: Acute Health Hazard; Chronic Health Hazard

Ingredients-U.S. Regulatory Information

Copper-SARA Title III-Section 313 Form "R"/TRI Reportable Chemical

Phosphorus-SARA Title III-Section 313 Form "R"/TRI Reportable chemical

Silver-SARA Title III-Section 313 Form "R"/TRI Reportable Chemical

Canadian Regulatory Information

WHMIS Class (es) and Division (s): none applicable

Components on Ingredient Disclosure List:

1. Copper, elemental (CASRN 7440-50-8)
2. Phosphorus (CASRN 7723-14-0)
3. Silver, elemental (CASRN 7440-22-4)

SECTION 16: OTHER INFORMATION

Disclaimer: Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein and assume no responsibility regarding the suitability of this information for the user's intended purposes as to the suitability of the information for their particular purposes.