



Consolidated Alloys

A Division of C.A. Group Australasia Pty. Ltd.
ABN 83 005 084 097 ACN 005 084 097

Head Office : 32 Industrial Avenue Thomastown, Victoria 3074
AUSTRALIA
Mail : PO Box 199, Reservoir, Victoria 3073
AUSTRALIA
Telephone : (03) 9359 5811
Facsimile : (03) 9359 4076
E-mail : info@cagroup.com.au

Reference No. : M135
Product Name : 45% SBA Cadmium Free

MATERIAL SAFETY DATA SHEET

Section 1 : IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **45% SILVER BRAZING ALLOY CADMIUM FREE**
Other Names: **B_{Ag}45CuZn Silver Brazing Alloy Rod**
Recommended Use: Joining of ferrous, nonferrous and dissimilar metals. Used in brazing processes for the electrical industry and for brass parts. This alloy often used when cadmium must be avoided such as in the dairy and food industries.

Supplier's / Manufacturer's

Name: Consolidated Alloys
Address: 32 Industrial Avenue, Thomastown, Victoria 3074, AUSTRALIA
Telephone No.: (03) 9359 5811
Emergency No.: (03) 9359 5811 – Business Hours
0439 062 480 – After Hours (24Hrs)

Poisons Information Centre
Victoria
Telephone No.: 131126

Section 2 : HAZARD IDENTIFICATION

Hazard Classification according to criteria of Worksafe Australia.

Risk Phrase(s) R20/22 Harmful by inhalation and if swallowed.

Safety Phrase(s) S36/37 Wear suitable protective clothing and gloves.

Section 3 : COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Entity	Proportion	CAS Number
Silver	45%	7440-22-4
Copper	30%	7440-50-8
Zinc	25%	7440-66-6



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Section 4 : FIRST AID MEASURES

Description of necessary measures according to route of exposure.

Ingestion:	Does not present an ingestion hazard. If swallowed, DO NOT induce vomiting and wash out mouth with water and seek immediate medical advice.
Eye:	If in eyes, act immediately, hold eyes open and wash with running water for at least 15 minutes. Retract eyelids often to ensure adequate irrigation and immediately transport to a hospital or doctor.
Skin:	Remove contaminated clothing and wash affected area with soap and water. Seek medical attention if irritation occurs.
Inhalation:	Remove patient from the exposure and provide fresh air. Loosen tight clothing at the neck and waist. Keep patient warm and rested. Apply artificial respiration if not breathing and seek medical attention.
Medical Attention and Special Treatment:	Treat specific symptoms related to exposure.

Additional information

Aggravated Medical Conditions
Caused by Exposure:

Chronic absorption of silver can cause argyria, a bluish grey discolouration of various tissues, but this is unlikely to occur when handling silver alloys. Prolonged exposure to copper may cause skin irritation or discolouration of the skin or hair.

Section 5 : FIRE FIGHTING MEASURES

Extinguishing Media:	Dry Chemical Powder or Carbon Dioxide.
Hazardous Combustion Products:	Non Flammable. Under fire conditions this product may emit toxic and/or irritating fumes.
Special Protective Equipment:	Fire fighters should wear self contained breathing apparatus if risk of exposure to products of decomposition.

Additional information

Copper and some copper alloys can form explosive acetylides when exposed to acetylene. As with metals, contact with strong acids emits toxic hydrogen gases.

HAZCHEM CODE: 2R



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Section 6 : ACCIDENTAL RELEASE MEASURES

Emergency Procedures: Refer to protection measures listed in 7/8.

Methods and Materials for Containment and Clean Up Procedures

Small Spills / Leaks: Collect scrap and return to supplier.

Large Spills / Leaks: Wear full protective clothing and respiratory protection to minimise exposure. Vacuum or sweep up material avoiding dust generation or dampen spilled material with water to eliminate airborne dust. Place in labelled containers for subsequent recycling or disposal. Do not allow entry into drains or water courses. If the product contaminates the water table, rivers or drains alert the authority in accordance with the regulatory procedures.

For Personal Protective Equipment (PPE) - refer to Section 8 of this MSDS (if required)

Section 7 : HANDLING AND STORAGE

Precautions for Safe Handling: Ensure good ventilation/exhaustion in the workplace. Always wear protective clothing and equipment to prevent inhalation, skin and eye contact. Always wash hands before eating, drinking, smoking or using the toilet.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated out of direct sunlight and moisture. Store in a labelled and sealed container away from incompatible materials.



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Section 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards – as regulated by: Worksafe Australia

Chemical Name	ES – TWA	ES - STEL	ES – Peak
Copper	0.2 mg/m ³		
Silver	0.1 mg/m ³		
Zinc (Oxide & Fume)	5.0 mg/m ³		

Biological Limit Values No data available.

Engineering Controls: Use enough ventilation and local exhaust to keep fumes below the relevant exposure standards in the workers breathing zone and general. For manual welding operations outdoors natural ventilation is sufficient. For indoor operations mechanical ventilation using local exhaust systems is required.

Personal Protective Equipment (PPE)

Eye / Face Protection: A welding helmet with a suitable filter, welding hand shield with a suitable filter, welding goggles and full face shield. Provide protective screens and flash goggles if necessary to shield others. Refer to AS 1336, AS 1337 and AS1338. For most open welding/brazing operations, goggles, even with the appropriate filters will provide sufficient facial protection for welders (WTIA – Technical Note 7).

Skin Protection: Gloves and protective clothing such as overalls and full face shield at a minimum but also may include arm protectors, aprons, hats and shoulder protection. Refer to AS/NZS 2161.1 and 2919.

Respiratory Protection: Use a fume respirator or air supplied respirator when brazing in a confined space or where local exhaust or ventilation doesn't keep exposure below the relevant exposure standards. Refer AS/NZS 115 and AS/NZS 1716. An approved dust/fume respirator should be worn when ventilation is not sufficient.



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Section 9 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Copper coloured rods with Violet tip (B _{Ag} 45CuZn)
Odour:	Nil
Vapour Pressure:	N/A
Vapour Density:	N/A
Brazing Range:	743 – 843°C
Melting Range:	Solidus 663°C Liquidus 743°C
Solubility in Water:	Insoluble
Specific Gravity:	8.972
Flash Point:	N/A
pH:	N/A

For Flammable Limits (as a percentage volume in air)

Lower Explosion Limit :	N/A
Upper Explosion Limit :	N/A
Ignition Temperature:	N/A
Specific Heat Value :	N/A
Particle Size:	N/A
Volatile Organic Compounds (VOC) Content :	N/A
Evaporation Rate :	N/A
Viscosity :	N/A
Percent Volatile :	N/A
Octanol/Water partition coefficient :	N/A
Saturated Vapour Concentration :	N/A
Additional Characteristics	N/A
Flame Propagation/Burning Rate of Solid Materials :	N/A
Properties of material that may initiate or contribute to fire intensity :	N/A
Potential for Dust Explosion :	Nil
Reactions that Release Flammable Gases :	Nil
Fast or Intensely Burning Characteristics :	N/A
Non-Flammables that could contribute unusual hazards to a fire :	None
Release of invisible flammable vapour and gases :	Nil
Decomposition Temperature :	N/A

Additional Information

Electrical Conductivity (%IACS) :	19.0
Electrical Resistivity (Microhm-cm) :	9.08



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Section 10 : STABILITY AND REACTIVITY

Chemical Stability:	Stable under the handling and storage conditions listed in section 7.
Conditions to Avoid:	Avoid contact with strong acids.
Incompatible Materials:	Incompatible with acids and acetylene.
Hazardous Decomposition Products:	These alloys are not pyrophoric. However, in the case of a fire resulting in temperatures in excess of 600°C, toxic fumes of copper will be evolved.
Hazardous Reactions:	None

Section 11 : TOXICOLOGICAL INFORMATION

Toxicity Data:	No data available.
Ingestion:	Does not seem likely to occur. However, ingestion may irritate the gastric tract causing nausea and vomiting. Large quantities may depress the central nervous system.
Eye:	Welding/brazing fumes may be irritating to eyes.
Skin:	Dusts may cause reactions for some users. Skin contact may cause irritation resulting in redness and itching. Avoid contact with skin, hot metal causes burns.
Inhaled:	Fumes and gases can be dangerous to your health. Aggravation of previous respiratory problems can occur. Copper oxide may cause dizziness and nausea as well as irritation of the nose, throat and eyes.

Section 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	This product has no effect on the environment unless in finely divided form.
Persistence / Degradability:	No data available.
Mobility:	No data available.
Environmental Fate:	No data available.
Bioaccumulative Potential :	No data available.



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Section 13 : DISPOSAL CONSIDERATIONS

Disposal Methods: Scrap should be recycled and returned to supplier. Do not dispose to landfill. Dispose of according to relevant local, state and federal government regulations.

Special Precautions for Landfill or Incineration: Not Applicable

The Disposal Considerations mentioned above applies to the material / product described in this MSDS as manufactured. Further processing, use, or contamination of the product may make the information inappropriate, inaccurate or incomplete.

Section 14 : TRANSPORT INFORMATION

UN Number: None Allocated
UN Shipping Name: N/A
Dangerous Goods Class: None Allocated
Packing Group: None Allocated
Special Precautions / Requirement: N/A
HAZCHEM Code: 2R

Additional Information –
Material for Export: N/A

Section 15 : REGULATORY INFORMATION

Poison Schedule Number: None Allocated
EPG: None Allocated
AICS Name: N/A
NZ Toxic Substance: N/A



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Section 16 : OTHER INFORMATION

Last Revision: 04/06/2008

Additional Information:

The recommended maximum operating temperature for this product is up to 204oC in continuous service and up to 316oC in intermittent service. Fume generation is generally low; however fume generation is greatly increased if the rod is excessively heated above its melting point. Welding fumes are complex and may not relate from composition standpoint to the rods themselves. Reasonably expected products will be oxides of the parent rod and can be verified by air sampling in the vicinity of the particular process.

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----- End of MSDS -----