

# MATERIAL SAFETY DATA SHEET

Date: July 30, 2010  
MSDS No. 736

## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufactured/Supplied by:	Welding Material Sales 1340 Reed Rd Geneva IL 60134
Telephone Number:	630-232-6421
Emergency Telephone:	800-424-9300(US, Canada, Puerto Rico, Virgin Islands) 703-527-3887 (outside above area)
Fax Number:	630-232-4619
Email:	<a href="mailto:info@weldingmaterialsales.com">info@weldingmaterialsales.com</a>
Product Trade Name:	Silver Brazing
Product Classifications:	SILVALOY A-5, SILVALOY A-9, SILVALOY A-10, SILVALOY A-20, SILVALOY A-24, SILVALOY A-25, SILVALOY A-30, SILVALOY A-35, SILVALOY A-40, SILVALOY A-40L, SILVALOY A-45, SILVALOY A-50, SILVALOY A-60, SILVALOY A-65, SILVALOY A-70, SILVALOYA-75, 125,182,273,6049,6114,6189,6338,6379,6767,6791,7708,21402,22822,23937,30759,34975,35115,35514,35531
Common Name:	SILVER-COPPER-ZINC BRAZING ALLOY
Chemical Name:	SILVER-COPPER-ZINC BRAZING ALLOY
Formula:	Ag-Cu-Zn
Product CAS No.:	CHEMICAL MIXTURE
Product Use:	Welding/Brazing/Soldering

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENT

CHEMICAL NAME	CAS NO.	% WT.
COPPER	7440-50-8	15-86
SILVER	7440-22-4	3-80
ZINC (AS OXIDE)	7440-66-6	3-40

### INGREDIENT NOTES

NOTE: The percentage by weight values reported for the ingredients in this product represent approximate formulation values.

NOTE: See Section 8 for Exposure Limits and Section 11 for Toxicological Information.

## SECTION 3: HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

Metallic wire, rod or strip

Odorless

Flash Point: Not Applicable

Prolonged or repeated exposure may cause liver and kidney damage. May cause respiratory tract irritation. Overexposure to freshly formed fumes may cause a flu-like illness called "metal fume fever". Harmful if large amounts are swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

May cause eye and skin irritation.

Not a fire or explosion hazard in solid form. Finely divided dust may ignite and burn rapidly when mixed with air in the proper proportions. Toxic metal fumes may be released in a fire situation.

### ROUTES OF ENTRY

**Eye:** YES

**Skin:** YES.

**Ingestion:** YES

**Inhalation:** YES

### POTENTIAL HEALTH EFFECTS

**EYE CONTACT may cause irritation.**

**SKIN CONTACT may cause irritation.**

**INHALATION** may cause irritation of the respiratory tract. Short-term overexposure may cause a flu-like illness called metal fume fever. Typically metal fume fever begins four to twelve hours after sufficient exposure to freshly formed fumes. The first symptoms are a metallic taste, dryness and irritation of the throat. Cough and shortness of breath may occur along with headache, fatigue, nausea, vomiting, muscle and joint pain, fever and chills. The syndrome runs its course in 24-48 hours.

**INGESTION** is harmful. May cause abdominal pain, nausea, vomiting and diarrhea. **COPPER** poisoning can result in hemolytic anemia and kidney, liver and spleen damage.

**NOTE:** The potential health effects described above only apply if dust or fume if formed.

### CARCINOGENICITY

**NTP:** NO

IARC: NO

OSHA: NO

**CHRONIC HEALTH HAZARDS**

Excessive ZINC intake has been associated with copper deficiency anemia.

Prolonged or excessive exposures may result in argyria, a permanent localized blue-grey discoloration of the eyes, skin or mucous membranes.

Prolonged exposure to SILVER can cause damage to the nasal septum.

Refer to Potential Health Effects.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**

May adversely affect existing medical conditions, such as eye, skin, respiratory, blood, liver and/or kidney ailments.

Individuals with Wilson's Disease are at increased risk of COPPER poisoning.

NOTE: See Section 8 for Exposure Limits, Section 11 for Toxicological Information and Section 12 for Ecological Information.

**SECTION 4: FIRST AID MEASURES**

**Eyes:** Flush eyes with plenty of water. If irritation develops, call a physician.

**Skin:** Immediately wash skin with soap and plenty of water. If irritation persists, call a physician.

**Ingestion:** Procedures normally not needed. If large quantities are ingested, seek medical advice.

**Inhalation:** If exposed to excessive levels of metal fumes, remove to fresh air and seek medical attention.

**SECTION 5: FIRE FIGHTING MEASURES**

**Flash Point:** Not Applicable

**Auto-Ignition:** Not Applicable

**LEL:** Not Applicable

**UEL:** Not Applicable

**NFPA HAZARD CLASSIFICATION**

**Health: 2 Flammable: 0 Reactivity: 0 Special: 0**

**HMS HAZARD CLASSIFICATION**

**Health: 2\* Flammable: 0 Reactivity: 0 Special: B**

\*Indicates the possibility of chronic health effects. See Chronic Health Hazards in Section 3 for more information.

**EXTINGUISHING MEDIA**

Use carbon dioxide, chemical foam or dry chemical. Use any means for extinguishing surrounding fire.

Do NOT use water on metal fires.

**SPECIAL FIRE FIGHTING PROCEDURES**

Wear NIOSH/MSHA approved positive-pressure self-contained breathing apparatus and protective clothing as specified in 29 CFR 1910.156.

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Not a fire or explosion hazard in solid form. Finely divided dust may ignite and burn rapidly when mixed with air in the proper proportions. Toxic metal fumes may be released in a fire situation.

**SECTION 6: ACCIDENTAL RELEASE MEASURE**

Contain spillage and scoop up or vacuum. Notification of the National Response Center (800/424-8802) may be required. Refer to EPA, DOT and applicable state and local regulations for current response information.

It is recommended that each user establish a spill prevention, control and countermeasure plan (SPCC). Such plan should include procedures applicable to proper storage, control and clean-up of spills, including reuse or disposal as appropriate (see Section 13: Disposal Considerations).

\*\*Note\*\*In the event of an accidental release of this material, the above procedures should be followed. Additional, proper exposure controls and personal protection equipment should be used (see Section 8: Exposure Control/Personal Protection), and disposal of the material should be in accordance with Section 13: Disposal Considerations.

**SECTION 7: HANDLING AND STORAGE**

Wash thoroughly after handling. Store in a cool, dry location away from incompatible materials.

Avoid contact with any dusts, mists or fumes resulting from the use of this product.

Use only with adequate ventilation.

Do not eat, drink, or smoke in work area.

**SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION**

EXPOSURE LIMITS INGREDIENT	PEL-OSHA	TLV-ACGIH
COPPER CAS NO.: 7440-50-8	0.1 mg/m3 (Fume) 1 mg/m3 (Dust)	0.2 mg/m3 (Fume) 1 mg/m3 (Dust)
SILVER CAS NO.: 7440-22-4	0.01 mg/m3	0.1 mg/m3
ZINC (AS OXIDE) CAS NO.: 7440-66-6	15 mg/m3 (Total dust) 5 mg/m3 (Respirable fraction) 5mg/m3 (Fume)	5mg/m3 (Fume) 10 mg/m3 (Fume) STEL 10 mg/m3 (Total dust)

**NOTE: Both OSHA and the ACHIH list welding fumes as having an exposure limit of 5 mg/m3 (total particulate not otherwise classified). However, the ACGIH states that welding fumes must be tested frequently for individual components which are likely to be present to determine whether specific exposure limits are exceeded.**

**NOTE:** The permissible exposure limits (PELs), threshold limit values (TLVs), potential health effects statements and SARA hazard categories may not be applicable as the hazardous ingredients listed are in the solid form. If dust, powder or fume is generated then these statements will be applicable.

Unless otherwise noted, all values are reported as 8-hour Time-Weighted Averages (TWAs) and total dust (particulates only). All ACGIH TLVs refer to the 1998 Standards. All OSHA PELs refer to 29 CFR Part 1910 Air Contaminants: Final Rule, January 19, 1989.

**RESPIRATORY PROTECTION:**

If dust or fume is generated, a NIOSH/MSHA approved respirator may be necessary. Follow all requirements for respiratory programs and selection set forth in the OSHA regulations (29 CFR 1910.139).

**VENTILATION**

General: local exhaust ventilation as necessary to control any air contaminants to within their PELs or TLVs during the use of this product.

**PROTECTIVE EQUIPMENT**

Refer to ANSI/ASC Z49.1-94 (Safety in Welding, Cutting and Allied Processes), published by the American Welding Society, for further information on the selection of personal protective equipment.

Safety glasses (with side shields).

Body protection as necessary to prevent skin contact.

**PERSONNEL SAMPLING PROCEDURE**

**For COPPER (dust & fume):** Refer to NIOSH Manual of Analytical Methods (NMAM), 4<sup>th</sup> Edition, Method 7029.

**For ZINC OXIDE:** Refer to NIOSH Manual of Analytical Methods (NMAM), 4<sup>th</sup> Edition, Method 7502.

**For ZINC COMPOUNDS:** Refer to NIOSH Manual of Analytical Methods (NMAM), 4<sup>th</sup> Edition, Method 7030.

**For SILVER:** Refer to NIOSH Manual of Analytical Methods (NMAM), 4<sup>th</sup> Edition, Method 7300.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Metallic wire, rod or strip
<b>Odor:</b>	Odorless
<b>Boiling Point :</b>	Not determined
<b>Specific Gravity (H20=1):</b>	8.43 to 10.05
<b>Melting Point:</b>	656.15°C
<b>Vapor Pressure (mm Hg):</b>	Not applicable
<b>Vapor Density (Air=1):</b>	Not Applicable
<b>Evaporation Rate:</b>	Not Applicable
<b>% Solubility in water:</b>	Insoluble
<b>pH:</b>	Not Applicable

**SECTION 10: STABILITY AND REACTIVITY**

**Stability:** Generally considered stable.

**Avoid:** None expected.

**Incompatibility (Materials to avoid)**

Strong acids and bases, oxidizing agents, acetylene, ammonia, hydrogen peroxide, magnesium metal, ammonium nitrate, hydrogen sulfide, chlorinated rubber.

**Hazardous Decomposition or By-Products:** Toxic metal oxides are emitted when heated above the melting point. The amount of fume evolved increases as the temperature rises.

**Polymerization:** Polymerization is not expected to occur.

**Avoid:** Not applicable.

**SECTION 11: TOXICOLOGICAL INFORMATION**

CHEMICAL NAME	% WT. LD50	LC50
COPPER CAS NO.: 7440-50-8	15-70 3.5 mg/kg MOUSE, intraperitoneal	Not available
SILVER CAS NO.: 7440-22-4	3-80 Not Available	Not available
ZINC (AS OXIDE) CAS NO.: 7440-66-6	3-40 7,950 mg/kg MOUSE, oral	2,500 mg/kg MOUSE

**NOTE: See Sections 3, 8 and 12 for additional information.**

**SECTION 12: ECOLOGICAL INFORMATION**

**ECOTOXICITY:** No data available

**ENVIRONMENTAL FATE:** No data available.

**SECTION 13: DISPOSAL CONSIDERATIONS**

US EPA WASTE NUMBER: D011

This product contains SILVER or silver compounds and disposal may be regulated under EPA hazardous waste regulations, waste number D011. Before disposal, this product or mixtures containing this product should be tested for toxicity characteristics (TC) under the current EPA Hazardous Waste Regulations TCLP testing procedures, 40 CFR Part 261 at seq. Disposal/recycling/reclamation requirements will vary by location and type of disposal selected. Consult with state and local regulatory authorities.

**\*\*NOTE\*\*** Chemical additions, processing or otherwise altering this material may make the waste management information presented above incomplete, inaccurate or otherwise inappropriate.

As local regulations may vary; all waste must be disposed/recycled/reclaimed in accordance with federal, state, and local environmental control regulations.

**SECTION 14: TRANSPORT INFORMATION**

**INTERNATIONAL**

UN Number: Not regulated  
**UNITED STATES**  
EPA Waste Number: D011  
DOT Classification: Not regulated  
**CANADA**  
PIN Number: Not Regulated  
TDG Class: Not Regulated  
EC  
DGL: Not Determined

**SECTION 15: REGULATORY INFORMATION**

US FEDERAL REGULATIONS

TSCA: IN TSCA

SARA 311 and 312 HAZARD CATEGORIES

IMMEDIATE (Acute) Health Hazard: YES

DELAYED (Chronic) Health Hazard: YES

FIRE Hazard: NO

REACTIVITY Hazard: NO

Sudden release of PRESSURE: NO

SARA SECTION 313 NOTIFICATION

This product contains a toxic chemical (or chemicals) subject to the reporting requirements of Section 313 of TITLE III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

CHEMICAL NAME	CAS Number	%Weight
COPPER	7440-50-8	15-70
SILVER	7440-22-4	3-80
ZINC (AS OXIDE)	7440-66-6	3-40
OZONE DEPLETING SUBSTANCES (ODS)		

This product neither contains nor is manufactured with an ozone depleting substance subject to the labeling requirements of the Clean Air Act Amendments 1990 and 40 CFR Part 82.

VOLATILE ORGANIC COMPOUNDS (CARB): Not Determined

CANADIAN REGULATIONS

“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*.”

DSL/NDSL: DSL

WHMIS Classification: Uncontrolled Product

EUROPEAN REGULATIONS

EINECS: Yes

OTHER REGULATIONS

MITI (Japan): Yes

AICS(Australia): Yes

**SECTION 16: ADDITIONAL INFORMATION**

REVISIONS

Revisions Number: 8

PREPARATION INFORMATION

Prepared by Welding Material Sales

Phone Number/Address: See Section 1

This Material Data Sheet is offered pursuant to OSHA’s Hazard Communication Standard (29 CFR 1910.1200). Other government regulations must be reviewed for applicability to these products. The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations, and management and for persons working with or handling these products. The information presented in the MSDS is premised upon proper handling and anticipated uses and is for the material without chemical additions/alterations. We believe this information to be reliable and up-to-date as of the date of publication, but make no warranty that it is. Additionally, if this Material Safety Data Sheet is more than three years old, please contact the supplier at the phone number listed in Section 1 to make certain that this sheet is the most current. Copyright Welding Material Sales. License granted to make unlimited copies for internal use only.