

RIVER GEMS™
AND FINDINGS
 6901 Washington NE
 Albuquerque, NM 87109
 (505) 345-8511

Material Safety Data Sheet
 Material/Trade Name: Silver Solder
 Stock Number(s): 101-100, 110, 200, 701-704
 MSDS Code: RGF-026

*** INFO FOR ALL WIRE SOLDERS ***

SECTION I PRODUCT/SUPPLIER INFORMATION

| | | | |
|----------------------|----------------------------|--|----------------|
| Material/Trade Name: | Silver Solder | Emergency Telephone No.: | (800) 255-3924 |
| Synonyms: | Brazing Filler Metal | Nonemergency Safety/Technical Information Telephone No.: | (505) 345-8511 |
| Stock Numbers: | 101-100, 110, 200, 701-704 | Supersedes our version dated: | 06/24/93 |
| | | Based on Manufacturer's MSDS: | 10/01/93 |
| | | DATE PREPARED: | 11/08/94 |

SECTION II INGREDIENT/EXPOSURE LIMIT INFORMATION

| Component (synonym) | % | CAS No. | TLV | PEL | REL |
|---------------------|---|-----------|--|--|--|
| Silver | | 7440-22-4 | 0.1 mg/m ³ (m) 0.01 mg/m ³ (s) | 0.01 mg/m ³ | 0.01 mg/m ³ (m,s) |
| Copper | | 7440-50-8 | 0.2 mg/m ³ (f) 1 mg/m ³ (dm) | 0.1 mg/m ³ (f) 1 mg/m ³ (dm) | 0.1 mg/m ³ (f,hr) |
| Zinc* | | 7440-66-6 | 5 mg/m ³ (f) 10 mg/m ³ (TP) 10 mg/m ³ (a,f) | 5 mg/m ³ (f) 15 mg/m ³ (TP) 5 mg/m ³ (RF) 10 mg/m ³ (a,f) | 1 mg/m ³ (dm) 5 mg/m ³ f,hr 10 mg/m ³ f,a 5 mg/m ³ TP 15 mg/m ³ c,a |

a = Short Term Exposure Limit (STEL); RF = Respirable Fraction; c = Ceiling Limit
 m = Mist; s = Soluble Compounds of Silver, Copper, and Zinc; f = As Fume; d = Dust; hr = 10hTWA; TP = Total Particulate;

SECTION III PHYSICAL PROPERTIES

| | | | |
|--------------------------|--|-------------------|----------------|
| Vapor Pressure (mm Hg): | Not Applicable | Specific Gravity: | 8.48-10.0 |
| Vapor Density (Air = 1): | Not Applicable | Boiling Point: | Not Available |
| Solubility in Water: | Insoluble | Evaporation Rate: | Not Applicable |
| Appearance: | White to brass yellow metal in form of rod, wire, strip, powder or preformed shapes. | Volatility (%): | Not Available |
| Odor: | None | pH: | Not Available |
| Melting Point: | 1235°-1545 °F (670°-840 °C) | | |

SECTION IV FIRE AND EXPLOSION DATA

| | | | |
|----------------------------|---------------|-------------------|--------------------|
| Flash Point: | Not Available | Flammable Limits: | LEL: Not Available |
| Auto Ignition Temperature: | Not Available | | UEL: Not Available |

EXTINGUISHING MEDIA: Use dry powder-Do not use water

Special Fire Fighting Procedures: Fire fighters should wear full turnout gear and pressure-demand self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: In finely divided form, this material may ignite when exposed to flame or by reaction with incompatible materials. Material may release toxic emissions of metal or metal oxide fumes.

SECTION V REACTIVITY DATA

Stable? Yes Conditions to Avoid: None Known

Incompatibility (Materials to Avoid): Strong oxidizers; Se; Te; Mg; acetylene; NH₃; HN₀₃; azides, ethanol; ethylene imine; CF₃; inorganic and organic peroxides; peroxyformic acid; chlorine and fluorine; permonosulfuric acid; chlorates; Cr₀₃; Mn and Ca chlorides; CS₂; hydrazine mononitrate; nitrobenzene; Fe(CO)₅; seleninyl bromide.

Hazardous Decomposition Products: Silver and copper fumes; Oxides of carbon and zinc

Hazardous polymerization may occur? No Conditions to Avoid: None Known

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SECTION VI HEALTH HAZARD DATA

Primary Routes of Exposure: Inhalation, eye and skin contact

Acute Signs and Symptoms of Overexposure: Irritating to the eyes, skin and respiratory tract. Health effects may include metal fume fever, (delayed effect characterized by chills, muscle aches, nausea, fever, dry throat, cough, weakness, profuse sweating, and metallic taste), discolorization of skin, ulcerations of the nasal septum, tight chest, headaches, blurred vision, back pain, and vomiting.

Chronic Signs and Symptoms of Overexposure: Argyria, a permanent condition associated with widespread bluish pigmentation of the skin and conjunctiva. Prolonged or repeated exposure may result in lung, liver, or kidney damage. One or more of the components in this product have shown reproductive effects when tested on experimental laboratory animals.

SECTION VI HEALTH HAZARD DATA (Continued)

| | | | | |
|---------------------|-----|------|-------|------|
| Carcinogenicity? No | NTP | IARC | ACGIH | OSHA |
|---------------------|-----|------|-------|------|

No ingredients listed in this section

Conditions That May Increase Overexposure Potential: None Known

Medical Conditions Generally Aggravated by Exposure: Pre-existing respiratory, skin, or eye conditions may be aggravated. Wilson's disease-a genetic disorder characterized by the abnormal absorption and retention of copper. May be fatal if not treated.

FIRST AID PROCEDURES:

Eye Contact: Flush contaminated eye(s) with plenty of water for at least 15 minutes while holding eyelids open. Seek medical attention immediately if irritation persists or if injury has occurred.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Seek medical attention if irritation develops and persists.

Inhalation: Remove victim to fresh air. If breathing has stopped, properly trained personnel should begin artificial respiration or cardiopulmonary resuscitation (CPR) and medical assistance should be obtained immediately.

Ingestion: Seek medical attention immediately.

SECTION VII PRECAUTIONS FOR SAFE HANDLING AND USE

Actions to Take For Spills: Wearing appropriate personal protective equipment, allow material to cool. Scoop or scrape up and place into a suitable container.

Waste Disposal: Dispose of in accordance with all federal, state, and local regulations. Waste material may have reclamation value due to precious metal content.

Precautions to be Taken in Handling and Storage: Store in a cool, dry area.

Community Right-to-Know Requirements: SARA 302: Silver, RQ=1000lbs; Copper, RQ=5000lbs; Zinc, RQ=1000lbs (see 40 CFR 355).

SARA 313: Annual release reporting requirements for Silver, Copper, and Zinc (see 40 CFR 372.65).

SECTION VIII EMPLOYEE PROTECTION MEASURES

Ventilation: Local ventilation is preferred to meet TLV requirements. General ventilation is acceptable, if exposure is maintained below TLV.

Respiratory Protection: When airborne concentrations exceed the TLV or are unknown wear a NIOSH/MSHA approved respirator for dust, mist, and metal fumes used in accordance with OSHA respiratory requirements (29 CFR 11910.134).

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Label Wording and DOT Information

Product Name: Silver Solder

Ingredients: Silver
Copper
Zinc

Signal Word: Warning

Hazard Description: Fumes or dust generated from this product may irritate eyes, skin and respiratory tract. Inhalation of fumes may cause lung, liver, or kidney damage. Refer to MSDS for other potential health effects. Store in a cool, dry location.

First Aid Required on Label: No

First Aid Measures:

Eye Contact: Flush contaminated eye(s) with plenty of water for at least 15 minutes while holding eyelids open. Seek medical attention immediately if irritation persists or if injury has occurred.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Seek medical attention if irritation develops and persists.

Inhalation: Remove victim to fresh air. If breathing has stopped, properly trained personnel should begin artificial respiration or cardiopulmonary resuscitation (CPR) and medical assistance should be obtained immediately.

Ingestion: Seek medical attention immediately.

Leak/Spill Procedures: Refer to Material Safety Data Sheet for proper procedures. Dispose of according to local, state, and federal regulations.

Original Manufacturer: Lucas-Milhaupt, Inc.

Manufacturers's Product Name: Silver-Copper-Zinc Brazing Alloys

Manufacturer's Emergency Number: (800) 424-9300

DOT Regulated: No

Proper Shipping Name:

Hazard Class:

Subsidiary Risk:

I.D. Number:

Label:

Packaging Group:

Packaging Authorizations:

Packaging Exceptions:
Non-bulk Packaging:
Bulk Packaging:

Quantity Limitations:

Passenger Aircraft:
Cargo Only Aircraft:

a member of

THE BELL GROUP™

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Eye Protection: Safety glasses

Protective Gloves: Heat resistant gloves are recommended.

Other Protective Equipment: Leather apron

Work/Hygiene Practices: Eyewash station and safety shower should be available in areas of use. Wash thoroughly after handling product.

The information herein is given in good faith, but no warranty, express or implied, is made.