Material Safety Data Sheet

Section 1: Chemical Product Identification

Product Name: Silver Wire Solder Easy
Product Identification: The information in this MSDS is applicable to the products with the following codes: Braze 650 (15-650); Braze 700 (15-700); Braze 750 (15-750)

Section 2: Ingredients and Hazards

Component	CAS No.	Weight %
Silver	7440-22-4	65-75
Copper	7440-50-8	20-22
Zinc	7440-66-6	3-15

Section 3: Physical and Chemical Properties

Physical Form: Solid
Color: White to Brass Yellow
Odor: No Order
Melting Point 1240-1450^{o}F
Solubility in H_2O: Insoluble

Other commonly-reported physical properties (odor threshold, evaporation rate, vapor pressure, vapor density, oil-water partition coefficient, percent volatiles, percent VOCs, pH, viscosity) are not applicable to these products.

Section 4: Fire and Explosion Hazard Data

Flash point: Solid Material – Non-Flammable
Flammable Limits: N/A
Extinguishing Media: Use dry chemical. Do not use water.
Special Fire-Fighting Procedures: If fighting a fire in which these products are present, wear a self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

Section 5: Stability and Reactivity

Stability:

Stable under normal ambient working conditions

Conditions to Avoid:

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

Hazardous Decomposition Products:

Heating to elevated temperatures may liberate metal/metal oxide fumes.

Incompatible Materials:

Strong oxidizers; ammonia; azides; nitric acid; ethylene imine; chlorine trifluoride; sulfuric acid; carbon disulfide; peroxides; peroxyformic acid; oxalic acid; tartaric acid; 1-bromo-2-propyne; permonosulfuric acid; bromates, chlorates, and iodates of alkali and alkali earth metals; halogens; hydrazine mononitrate; hydroxylamine; selenium; tellurium.

Hazardous Polymerization:

Does not occur.

Section 6: Health Hazard Data and First Aid Procedures

Primary Routes of Exposure:

Inhalation, eye, skin, ingestion.

Inhalation:

Hazards:

Inhalation of the components of these products is not known 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.
SILVER: Chronic exposure via inhalation may cause argyria.
ZINC: Acute exposure to zinc oxide may cause respiratory tract irritation and "metal fume fever", which is characterized by a metallic taste, cough, dry throat, chills, fever, tightness of chest, headache, nausea, shortness of breath, vomiting, and fatigue.

First Aid:

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.

Ingestion:

Hazards:

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

First Aid:

If subject is conscious, induce vomiting. If unconscious or convulsive, seek immediate medical assistance.

Skin:

Hazards:

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

First Aid:

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

Eyes:

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.

First Aide:

Flush affected areas with water for at least fifteen minutes. Seek medical assistance if necessary.

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.

Conditions Aggravated By Overexposure:

Pre-existing pulmonary diseases (e.g., bronchitis, emphysema) 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.

Carcinogenicity:

These products contain no chemicals classified as potential or demonstrated carcinogens by IARC, NTP, or OSHA.

Section 7: Precautions for Safe Handling and Use

Steps in case of spill or leak:

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.

Waste Disposal:

Return to manufacturer for recover.

Section 8: Exposure Controls and Personal Protection

Ventilation:

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

Respiratory Protection:

If an exposure level exceeds an applicable exposure standard, use a NIOSHapproved respirator having a configuration (type of facepiece, 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).

Eye/Face Protection:

Wear eye protection adequate to prevent eye contact with finely-divided forms of product and eye injury if products are used with a flame. Plastic-frame spectacles with side shields and filter lenses (shade #3/#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.

Exposure Limits:

Copper ACGIH TLVs: 0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists)
OSHA PELs: 0.1 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists)

Silver ACGIH TLV: 0.1 mg/m3 TWA (metal) OSHA PEL: 0.01 mg/m3 TWA

Zinc ACGIH TLVs (as ZnO): 2 mg/m3 TWA; 10 mg/m3 STEL (both as respirable fractions)
OSHA PEL: 5 mg/m3 TWA (as ZnO fume)

Storage Precautions:

Do not store in proximity to incompatible materials (see Section #5).

Work/Hygienic Practices:

To minimize ingestion, wash hands and face before eating, drinking, applying cosmetics, or using tobacco.

Section 9: Transport Information

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

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