

SAFETY DATA SHEET

MAY BE USED TO COMPLY WITH OSHA'S HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200 AND SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) OF 1986 PUBLIC LAW 99-499. STANDARD SHOULD BE CONSULTED FOR SPECIFIC REQUIREMENTS.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

NAME OF PRODUCT: SILVER BEARING SOLDER - TUBE

**MANUFACTURER/
SUPPLIER:** Industrial Bolt & Supply
"962'Erc{'U'P Y
"Cwdwtp."Y C"; : 223"USA

TELEPHONE NUMBER (: 22) 89: -3; 28
FAX NUMBER: (: 22) 8: : -53; 8

WEBSITE: www.industrialbolt.com

PRODUCT CLASSIFICATION: Soft Solder Paste

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Odorless solid. Chemically stable and inert. Does not pose a fire hazard. **Non-Flammable:** Flames used for brazing and soldering can ignite combustibles. Molten metal can burn skin. Refer to American National Standard Z49.1 for fire prevention during welding.

ROUTES OF ENTRY: Primary route of entry is the respiratory system. Other possible routes are eyes, ingestion, and/or skin contact.

POTENTIAL HEALTH EFFECTS:

EYES: Inert foreign body hazard only.

SKIN: Prolonged contact may result in rashes/irritations due to drying of the skin and/or mechanical abrasion related to skin-to-clothing contact or skin-to-skin contact. May cause allergic skin reaction.

INGESTION: No adverse health effects anticipated by this route during proper industrial handling.

INHALATION: Exposure to fumes may aggravate pre-existing respiratory conditions.

WARNING: This product contains or produces a chemical known to the State of California to cause birth defects (or other reproductive harm) and/or cancer. (California Health & Safety Code 25249.5 et seq.).

WARNING: avoid breathing welding fumes and gases; they may be dangerous to your health. Always use adequate ventilation and use appropriate personal protection equipment.

CARCINOGENICITY

WELDING FUMES (not otherwise specified) are considered to be carcinogenic defined with no further categorization by NIOSH and IARC.

Package Labeling:

The product does not require a hazard warning label in accordance with EC directives/the relevant national laws.

This mixture is not classified as dangerous according to Regulation (EC) No. 1272/2008.

CAUTION:

Limited evidence of carcinogenic effect (welding fumes).

May cause sensitization by skin contact

Brazing/welding fumes and vapors may cause metal fume fever (headache, dizziness, dryness, cough, nausea, and fever) and these symptoms may appear 4-12 hours after exposure

Precautionary Statements:

P285 In case of inadequate ventilation wear respiratory protection

P314 Get medical advice if you do not feel well

P280 Wear protective gloves/protective clothing/eye protection/face protection

P202 Do not handle until all safety precautions have been read and understood

P260 Do not breathe dust/fume/gas/mist/vapors/spray

P501 Dispose of contents/container to waste treatment facility in accordance with local and national regulations

Before using this product, contact your doctor to determine if exposure to product or use of this product will aggravate your medical conditions.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

IMPORTANT: This section covers the materials from which these products are manufactured. Any of the chemicals or compounds subject to reporting under Title III, in Section 313, of the Superfund Amendments and Reauthorization Act (SARA) are marked by the symbol #.

Exposure Limit (mg/m³)

INGREDIENTS	CAS NUMBER	OSHA PEL	ACGIH-TLV	Percent Ingredients by Weight
Tin	7440-31-5	2	2	88 – 98
Silver #	7440-22-4	0.01	0.1	1 – 5
Sebacic Acid	111-20-6	Not listed	Not listed	
Diethylamine Hydrochloride	660-68-4	Not listed	Not listed	
Succinic Acid	110-15-6	Not listed	Not listed	
White Protopet IS	8009-03-8	Not listed	Not listed	

Percentages and formula are listed as proprietary. Exposure limits are subject to change.

CAS / EINECS NUMBER / HAZARD CLASSIFICATION FOR ABOVE INGREDIENTS

INGREDIENTS	CAS NUMBER	EINECS NUMBER	Hazard Classification per ECD 67/548/EEC
Tin	7440-31-5	231-141-8	No
Silver #	7440-22-4	231-131-3	No
Sebacic Acid	111-20-6	203-845-5	No
Diethylamine Hydrochloride	660-68-4	211-541-9	No
Succinic Acid	110-15-6	203-740-4	No
White Protopet IS	8009-03-8	232-373-2	No

Exposure limits are subject to change. Contact ACGIH and OSHA for current values. See Section 16 for European Council Directive 67/548/EEC R-phrases and S-phrases if applicable.

SECTION 4: FIRST AID MEASURES

EMERGENCY & FIRST AID PROCEDURES: Call for medical aid. Employ first aid techniques recommended by The American Red Cross.

SWALLOWING: Call a physician or your poison control center at once. Advise of Section II. Do not induce vomiting. If conscious, give soluble calcium or magnesium in any form: milk, calcium gluconate or calcium lactate solutions, if available. Do not give carbonates or bicarbonates.

SKIN: Wash thoroughly with water to remove all residue. If a rash develops, call a physician.

INHALATION: Remove to fresh air.

EYES: Flush with water for at least 15 minutes to remove all residue. Get medical attention immediately.

GENERAL: Move to fresh air and call for medical aid.

SECTION 5: FIRE FIGHTING MEASURES

Flammable: No

NFPA HAZARD CLASSIFICATION:

Health: 2 Flammability: 0 Reactivity: 0 Other:

HMS HAZARD CLASSIFICATION:

Health: 2 Flammability: 0 Reactivity: 0 Protection:

EXTINGUISHING MEDIA: In case of fire, use dry chemical or CO₂ extinguisher.

SPECIAL FIRE FIGHTING PROCEDURES: In case of fire wear suitable respiratory equipment with positive air supply.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

HAZARDOUS DECOMPOSITION PRODUCTS: Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Avoid generating dust. Solder may be swept up and placed in a container for proper disposal.

PERSONAL PRECAUTIONS: If dust is present, use particle filter dust mask. Wear personal protective clothing and ensure adequate ventilation.

ENVIRONMENTAL PRECAUTIONS: Do not flush residue into waterways.

SECTION 7: HANDLING AND STORAGE

HANDLING: Avoid exposure to dust and do not ingest. Avoid contact with skin, eyes, and clothing. Some individuals can develop an allergic reaction to certain materials. See American National Standard Z49.1, Safety in Welding and Cutting, published by the "American Welding Society," 550 N.W. LeJeune Road, Miami, FL 33126 and OSHA Publication 2206 (29CFR 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954

STORAGE: Keep material sealed and dry before use and store in a cool location and in the original labeled container. After using, keep remaining product sealed and dry and keep solder in original labeled container and store in a cool and dry location.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION



Read and understand the manufacturer's instructions and precautionary label on this product.

Always use adequate ventilation and wear appropriate personal protection. Do not breathe welding fumes and gases; they are dangerous to your health.

ENGINEERING CONTROLS: Proper ventilation must be maintained.

VENTILATION: Use enough ventilation, local exhaust at the spray area, or both, to keep the fumes and gases below the TLV's in the workers breathing and the general area. Train the worker to keep his head out of the fumes. Monitor fume levels and do not exceed permissible exposure limits or values.

RESPIRATORY PROTECTION: Use respirable fume respirator or air supplied respirator when soldering in a confined space or where local exhaust or ventilation does not keep exposure below the TLV's.

EYE PROTECTION: Wear safety glasses with side shields, face shield, and/or goggles.

PROTECTIVE CLOTHING: Wear gloves when using or prolonged contact with skin or repeated contact with skin is likely.

Wear hand and body protection to prevent injury. See ANSI Z49.1 for further information.

OTHER PROTECTIVE EQUIPMENT: Full protective equipment normally used in soldering / brazing operation so as to prevent any contact. Review operations to avoid contact with hazardous gas, liquid, or solid. See also:

29CFR 1910.132 - 29 CFR 1910.140 Personal Protective Equipment
29 CFR 1910.251 - 29 CFR 1910.257 Welding, Cutting and Brazing

SKIN PROTECTION: Individuals having sensitive skin may find it beneficial to use a barrier cream or moisturizer when excessive or prolonged contact with skin is likely.

WORK HYGIENIC PRACTICES: Do not eat or consume beverages in the work area.

EXPOSURE GUIDELINES: Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits.

EFFECTS OF OVEREXPOSURE - soldering may create one or more of the following health hazards:

FUMES AND GASES can be dangerous to your health.

PRIMARY ROUTES OF ENTRY are the respiratory system. Other possible routes are eyes, ingestion, and/or skin contact.

Molten metal can burn skin.

PREEXISTING respiratory or allergic conditions may be aggravated in some individuals (i.e. asthma, emphysema).

Soldering fumes cannot be classified simply. The composition and quantity of both are dependent upon the metal being soldered, the process, procedure, and the solder used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being soldered (such as paint, plating, or galvanizing), the volume of the work area, the quality and the amount of ventilation, position of the worker's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities).

When the material is consumed, fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Fume and decomposition products, not the ingredients in the powder, are important. Decomposition products include those originating from the volatilization, reaction, or oxidation of materials in Section 3, plus those from the base metal and coating, etc., as noted above. These components are virtually always present as complex oxides and not as metals (Characterization of Arc Welding Fume: American Welding Society).

Gaseous reaction products may include carbon monoxide and carbon dioxide. Monitor fume levels. One recommended way to determine the composition and quantity of fumes and gas to which workers are exposed is to take an air sample in the worker's

breathing zone (see ANSI/AWS F1.1, F1.2, F1.3, F1.4, and F1.5, available from the "American Welding Society," 550 N.W. LeJeune Road, Miami, FL 33126).

In other countries the exposure limits listed above may be different and the appropriate country exposure limits should be used.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Grey paste. No odor. **pH:** not applicable **Flash Point:** not applicable **Boiling Point:** not applicable

SECTION 10: STABILITY AND REACTIVITY

GENERAL: This item is only intended for use in soldering applications.

STABILITY: Product is chemically stable and non-reactive.

CONDITIONS TO AVOID: Moisture and excessive heat during storage.

HAZARDOUS POLYMERIZATION: Will not occur.

MATERIALS TO AVOID: Oxidizing agents.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon dioxide, carbon monoxide generated on heating.

SECTION 11: TOXICOLOGICAL INFORMATION

Threshold Limit Value: The ACGIH recommended general limit for welding fume NOS (not otherwise specified) is 5 mg/m³. The ACGIH 1999 preface states: "The TLV-TWA should be used as guides in the control of health hazards and should not be used as firm lines between safe and dangerous concentrations." See Section 8 for specific fume constituents that may modify the TLV.

SHORT TERM (ACUTE) OVEREXPOSURE to soldering fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes.

TIN & TIN COMPOUNDS – can affect the body if inhaled or if they make contact with eyes or skin. Short term overexposure toxicity is low. Inhalation of tin oxide may lead to benign pneumoconiosis. Certain tin salts are mild irritants to the skin and mucous membranes.

SILVER: Overexposure to silver dusts or fumes may cause a permanent grayish pigmentation of the skin and can cause irritation of the skin and mucous membranes.

WHITE PROTOPET IS: White Protopet IS is a medical grade (USP) petrolatum and is nontoxic and fully complies with the Food and Drug Administration's requirement for petrolatum as per CFR 121.1166.

SEBACIC ACID: Acute exposure has low toxicity potential. However, long term exposure has been found to produce irritation of the respiratory tract and alteration of kidney and liver functions. Maximum recommended concentration of sebacic acid in working areas should not exceed 4 mg/cu meter.

DIETHYLAMINE HYDROCHLORIDE: Material may be irritating to the eyes, skin and mucous membrane.

SUCCINIC ACID: Dust or mist, if inhaled, may irritate nose, throat, and lungs. Although small amounts may be used as a food additive, large doses (10 grams), if ingested, produce a laxative reaction, possible vomiting, and weakness and may irritate the gastrointestinal tract. Contact with skin may cause slight skin irritation.

LONG TERM (CHRONIC) OVEREXPOSURE is believed by some investigators to affect pulmonary functions. Target organs are eyes, skin, and respiratory system.

Prolonged or excessive exposures may result in argyria, a permanent localized blue-gray discoloration of the eye, skin, or mucous membranes. Primary route of entry is the respiratory system.

TIN & TIN COMPOUNDS – Long term overexposure affects are not known.

SILVER: Chronic exposure via inhalation may cause argyria. Prolonged overexposure can lead to kidney damage.

SECTION 12: ECOLOGICAL INFORMATION

Contaminated Packaging: Empty containers should be taken for local recycling, recovery, or waste disposal. Do not flush solder into surface water or sanitary sewers.

SECTION 13: DISPOSAL CONSIDERATION

WASTE DISPOSAL METHOD: Dispose of any solder and waste residues in accordance with EPA or local regulations. Where possible, recycling is the preferred method of disposal.

Review U.S. Federal Hazardous Waste Regulations §40 CFR261 to determine if this is hazardous in USA. Please be advised that state and local requirements, or other country requirements, for waste disposal may be more restrictive or otherwise different than U.S. Federal regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOMESTIC TRANSPORT REGULATIONS (USA): DOT - not regulated.
DOMESTIC TRANSPORT REGULATIONS (CANADA): TDG - not regulated.
DOMESTIC TRANSPORT REGULATIONS (MEXICO): MEX - not regulated.

INTERNATIONAL TRANSPORT REGULATIONS:

ICAO – not regulated
IATA – not regulated
IMDG / IMO – not regulated

OTHER AGENCIES: No international regulations or restrictions are applicable.

Handle with care to avoid damaging the product and keep product dry. Do not remove product identification label or warning label.

SECTION 15: REGULATORY INFORMATION

Read and understand the manufacturer's instructions and precautionary label on this product.

See American National Standard Z49.1, Safety in Welding and Cutting, published by the "American Welding Society," 550 N.W. LeJeune Road, Miami, FL 33126 and OSHA Publication 2206 (29CFR 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 for more detail on safe use of product when used in welding applications.

U.S. EPA TSCA (TOXIC SUBSTANCE CONTROL ACT): All constituents of these products are on the TSCA inventory list or are excluded from listing.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to our Local Emergency Planning Committee.

EPCRA/SARA TITLE III 313 TOXIC CHEMICALS:

The following metallic components are listed as SARA 313 "TOXIC CHEMICALS" and are potentially subject to annual SARA 313 reporting. See Section 3 if the ingredient is present and for percent.

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>DISCLOSURE THRESHOLD</u>
Chromium & chromium compounds	7440-47-3	1.0 % de minimis concentration
Chromium VI	Not listed	0.1 % de minimis concentration
Barium compounds	Not listed	1.0 % de minimis concentration
Cobalt	7440-48-4	0.1 % de minimis concentration
Copper	7440-50-8	1.0 % de minimis concentration
Manganese	7439-96-5	1.0 % de minimis concentration
Nickel	7440-02-0	0.1 % de minimis concentration
Aluminum (fume or dust)	7429-90-5	1.0 % de minimis concentration
Silver	7440-22-4	1.0 % de minimis concentration

Package Labeling:

Additional advice on labeling:

As a finished article the product does not need to be labeled in accordance with EC-directives or respective national laws.

International rules may vary and the appropriate regulations should be followed as defined by the country where the product is used.

SECTION 16: OTHER INFORMATION

This Safety Data Sheet has been revised due to modifications to several paragraphs and/or new format.

SUPPLEMENTAL INFORMATION – DEFINITIONS:

IARC: International Agency for the Research on Cancer
NIOSH: National Institute for Occupational Safety and Health
OSHA: U.S. Occupational Safety and Health Administration
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service Registry Number
EINECS: European Inventory of Existing Chemical Substances

PEL: Permissible Exposure Limit
NTP: National Toxicology Program
TLV: Threshold Limit Value
ECD: European Council Directive
GHS: Globally Harmonized System

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