



K-T Industries
3112 NW Blvd
Sheldon, IA 51201

SAFETY DATA SHEET



Emergency Phone: 1-800-222-1222 or contact any emergency room within 15 minutes of your location.

Section 01 Product or Trade Name Lead-Free Silver Solder

Other means of identification: Part Number: 1-2800
Recommended use: Joining silver, nickel alloys, and copper.
Recommended restrictions: None known

Section 02 Hazard Identification

Physical hazards: Not Classified
Health hazards: Not Classified
OSHA defined hazards: Not Classified
Environmental Hazards: Hazardous to the aquatic environment, acute hazard. Category 1.
Hazard symbol: See above
Signal word: Warning
Hazard Statement: Very toxic to aquatic life
Precautionary Prevention: Avoid release to the environment
Response: Collect spillage
Storage: Store away from incompatible materials
Disposal: Dispose of contents/container in accordance with local/regional/international regulations
Other Hazards: Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise & muscular pain.

Section 03 Composition Information

<u>Chemical Name</u>	<u>CAS Number</u>	<u>%</u>
Tin	7440-31-5	98
Silver	7440-22-4	2

Section 04 First Aid Procedures

Eye contact: Flush with water for 15 minutes. (see note)
Skin contact: Wash thoroughly with soap and water. Remove contaminated clothes. (see note)
Ingestion: Rinse mouth. (see note)
Inhalation: Remove to fresh air. Get medical attention. (see note)
Note: On all of the above get medical advice/attention if irritation develops & persists. Provide general supportive measures & treat symptomatically.

Section 05 Firefighting Measures

Suitable extinguishing media: Dry chemical powder. Dry sand. Water fog. Carbon dioxide (CO₂)
Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.
Special protective equipment & Precautions for firefighters: Self-contained breathing apparatus & full protective clothing must be worn.
Firefighting equipment: Use water spray to cool unopened containers. Use standard firefighting procedures & consider the hazards of other involved materials.
General fire hazards: No unusual fire or explosion hazards noted.

Section 06 Accidental Release Measures

Personal precautions, protective Equipment & clothing	Keep unnecessary personnel away from & upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Emergency procedures:	Ensure adequate ventilation. Advise local authorities if significant spillages cannot be contained. See section 8 of the SDS for personal protection.
Methods & materials for Containment & cleaning up:	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. See section 13 of the SDS for waste disposal.
Environmental precautions:	Avoid release to the environment. Prevent further leakage /spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform the appropriate

Section 07 Handling & Storage

Precautions for safe handling:	Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. Avoid breathing dust/fume/gas/mist/vapors/spray.
Conditions for safe storage Including any incompatibilities:	Store in original tightly closed container. Store away from incompatible materials. See section 10 of the SDS.

Section 08 Exposure Controls/Personal Protection

Occupational exposure limits: **US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

<u>Components</u>	<u>Type</u>	<u>Value</u>	<u>Form</u>
Tin (CAS 7440-31-5)	PEL	2 mg/m3	
Silver (CAS 7440-22-4)	PEL	0.01 mg/m3	

*US ACGIH Threshold Limit Values

<u>Components</u>	<u>Type</u>	<u>Value</u>	<u>Form</u>
Silver (CAS 7440-22-4)	TWA	0.01 mg/m3	Dust & Fume
Tin (CAS 744-31-5)	TWA	2 mg/m3	

*US NIOSH: Pocket Guide to Chemical Hazards

<u>Components</u>	<u>Type</u>	<u>Value</u>	<u>Form</u>
Silver (CAS 7440-22-4)	TWA	0.01 mg/m3	Dust
Tin (CAS 744-31-5)	TWA	2 mg/m3	

Biological limit values:	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection:	If contact is likely, safety glasses with side shields are recommended.
Skin/hand protection:	Wear appropriate chemical resistant gloves.
Other:	Wear suitable protective clothing.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards:	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations:	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material & before eating, drinking or smoking. Routinely wash work clothing & protective equipment to remove contaminants.

Section 09 Physical & Chemical Properties

Appearance:	Wire or Bar
Physical state:	Solid
Color:	Silver
Melting point/freezing point:	415-455°F (212.78-235°C)
Relative density:	9 – 11
Odor:	Not available

Section 10 Stability & Reactivity

Chemical stability:	Material is stable & non-reactive under normal conditions of use, storage & transport.
Possibility of Hazardous Reactions:	No dangerous reaction known under conditions of normal use.
Conditions to Avoid:	Contact with incompatible materials.
Incompatible Materials:	Acids. Chlorine.
Hazardous Decomposition Products:	No hazardous decomposition products are known

Section 11 Toxicological Information

INFORMATION ON LIKELY ROUTES OF EXPOSURE

Inhalation:	Prolonged inhalation may be harmful.
Skin contact:	No adverse effects due to skin contact are expected.
Eye contact:	Direct contact with eyes may cause temporary irritation.
Ingestion:	Expected to be a low ingestion hazard
Symptoms related to the Physical, chemical & Toxicological characteristics:	Direct contact with eyes may cause temporary irritation.

INFORMATION OF TOXICOLOGICAL EFFECTS

Acute toxicity:	Not available.
Skin irritation:	Prolonged skin contact may cause temporary irritation.
Eye irritation:	Direct contact with eyes may cause temporary irritation.

RESPIRATORY OR SKIN SENSITIZATION

Respiratory sensitization:	Not available.
Skin sensitization:	This product is not expected to cause skin sensitization.
Germ cell mutagenicity:	No data is available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity:	Not classifiable.

OSHA SPECIFICALLY REGULATED SUBSTANCES (29 CFR 1910.1001-1050): **Not listed.**

Reproductive toxicity:	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity: (Single exposure):	Not classified.
Specific target organ toxicity: (Repeated exposure):	Not classified.
Aspiration hazard:	Not available.
Chronic effects:	Prolonged inhalation may be harmful.

Section 12 Ecological Information

Eco toxicity:	Very toxic to aquatic life.
Persistence & degradability:	No data is available.
Bio accumulative potential:	No data available.
Mobility in soil:	No data available.
Other adverse effects:	No other adverse environmental effects from this component.

Section 13 Disposal Considerations

Disposal instructions:	Collect & reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations:	Dispose in accordance with all applicable regulations.
Hazardous waste code:	The waste code should be assigned in discussion between the user, the producer & the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material & its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging:	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after contained is emptied.

Section 14 Transport Information

DOT:	Not regulated as dangerous goods.
IATA:	Not regulated as dangerous goods.
IMDG:	Not regulated as dangerous goods
Transport in bulk to Annex II of MARPOL 73/78 & the IBC Code:	Not applicable.

Section 15 Regulatory Information

US Federal Regulations:	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200. All ingredients are on the U.S. EPA TSCA Inventory list.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):	Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):	Not Listed.
CERCLA Hazardous Substance List (40 CFR 302.4):	Silver (CAS 7440-22-4) LISTED

Superfund Amendments & Reauthorization Act of 1986 (SARA)

Hazard categories:

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance:

Not listed

SARA 311/312 Hazardous chemical:

No

SARA 313 (TRI reporting)

Chemical Name

CAS number

% by wt.

Silver

7440-22-4

1-5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

Not regulated

Safe Drinking Water Act (SDWA):

Not regulated

US state regulations

US. Massachusetts RTK - Substance List

Silver (CAS 7440-22-4)

US. New Jersey Worker and Community Right-to-Know Law

Tin (CAS 7440-31-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Silver (CAS 7440-22-4)

Tin (CAS 7440-31-5)

US. Rhode Island RTK

Silver (CAS 7440-22-4)

Tin (CAS 7440-31-5)

Silver (CAS 7440-22-4)

Section 15 Regulatory Information (continued)

US. California Proposition 65: California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
USA & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Section 16 Other Information

Issue date: January 1, 2016

Revision date:

Disclaimer Notice:

The information contained herein in this Safety Data Sheet is believed to be accurate. However, it provides no warranties, either express or implied & assumes no responsibility for the accuracy or completeness of the data contained herein. The consumer/user of this product assumes all liability & risk in the use of this product.