



SAFETY DATA SHEET (SDS)

Lead Free Solder Alloy

Date: 1/1/2020

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Lead Free Solder Alloy

CAS No: 7440-31-5 Tin (Sn)

Index No:

EC No: 231-141-8

CAS No: 7440-22-4 Silver (Ag)

Index number:

EC number:

CAS No: 7440-69-9 Bismuth (Bi)

Index number:

EC number:

CAS No: 7440-50-8 Copper (Cu)

Index number:

EC number:

CAS No: 7440-36-0 Antimony (Sb)

Index number:

EC number: 231-146-5

RECOMMENDED USE: Solder

Details of the supplier of the safety data sheet:

MANUFACTURER

Amerway Inc.
3701 Beale Ave.,
Altoona, PA 16601

PHONE: 814-944-0200

FAX PHONE: 814-944-1463

EMERGENCY TELEPHONE NUMBER:

CHEMTREC: 800-424-9300

CHEMTREC (Outside US & Canada): 703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

CLASSIFICATION OF CHEMICAL: This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS PICTOGRAMS:



GHS07



GHS08

SIGNAL WORD: Danger**HAZARD STATEMENT:**

- H302** Harmful if swallowed
H320 Causes eye irritation
H335 May cause respiratory irritation.
H350 Suspected to cause cancer.
H373 May cause damage to organs with prolonged or repeated exposure.

PRECAUTIONARY STATEMENT:

- P201** Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash face, hands and any exposed skin thoroughly after handling
P271 Use only outdoors or in a well-ventilated area.
P281 Use personal protective equipment as required.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT:

<u>CAS NO.</u>	<u>DESCRIPTION</u>	<u>% WT</u>
7440-31-5	Tin (Sn)	94-99.5
7440-22-4	Silver (Ag)	<5%
7440-69-9	Bismuth (Bi)	<5%
7440-50-8	Copper (Cu)	<5%
7440-36-0	Antimony (Sb)	<5%

SECTION 4: FIRST AID MEASURES

EMERGENCY OVERVIEW: IF exposed or concerned: Get medical attention/advice**POTENTIAL HEALTH EFFECTS FOLLOWING****EYE CONTACT:** Remove Contact lenses. Rinse immediately with plenty of water, also under eyelids, for at least 15 minutes.**SKIN CONTACT:** Immediately wash with soap and water and rinse thoroughly, for at least 15 minutes. Remove contaminated clothing.**INGESTION:** Do not induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth**INHALATION:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Carbon monoxide (CO), sand, extinguishing powder.



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UNSUITABLE EXTINGUISHING MEDIA: No information available

FLASH POINT: No information available

F: No information available

C: No information available

METHOD USED: No information available

AUTOIGNITION TEMPERATURE: Antimony- 330 °C / 626 °F

EXPLOSION LIMITS

UPPER: No data available.

LOWER: No data available.

SENSITIVITY TO MECHANICAL IMPACT: No information available.

SENSITIVITY TO STATIC DISCHARGE: No information available.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: Keep product and empty container away from heat and sources of ignition.

HAZARDOUS DECOMPOSITION PRODUCTS: Lead and Antimonial fumes at high temperatures.

NFPA HAZARD CLASSIFICATION

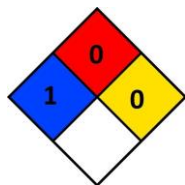
HEALTH:

1

FLAMMABILITY:

0

REACTIVITY: 0



HMIS HAZARD CLASSIFICATION

HEALTH:

1

FLAMMABILITY:

0

REACTIVITY: 0

HEALTH	1
FIRE	0
REACTIVITY	0

SPECIAL FIRE FIGHTING EQUIPMENT/PROCEDURES: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND PROTECTIVE EQUIPMENT: Ensure adequate ventilation. Use personal protective equipment
Avoid dust formation

ENVIRONMENTAL PRECAUTIONS: Should not be released into the environment. Do not allow to enter sewers/surface or ground water. Do not flush into surface water or sanitary sewer system.

CONTAINMENT AND CLEANUP: Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal.



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SECTION 7: HANDLING AND STORAGE

HANDLING: Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

STORAGE: Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES:

ROUTES OF EXPOSURE:

EYES: Dust or fume will be irritant.

SKIN: Irritant to skin and mucous membranes.

INGESTION: Ingestion of dust or fume must be avoided.

Tin is not regarded as toxic but excessive exposure can cause fever, nausea, stomach cramps or diarrhea. This product when used for welding and similar applications, produces chemicals known to cause cancer and birth defects (or reproductive harm). (California Health & Safety Code 25249.5 et seq).

Antimony is toxic and dust or fumes can cause nasal septal ulceration and stomach lining irritation.

INHALATION: Inhalation of dust and fumes must be avoided. This product, when used for welding and similar applications produces chemicals known to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code 25249.5 et seq).

ENGINEERING CONTROLS: Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

PERSONAL PROTECTIVE EQUIPMENT

SKIN AND BODY PROTECTION : Wear appropriate protective gloves and clothing to prevent skin exposure.

RESPIRATORY PROTECTION Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

EYE/FACE PROTECTION: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

WORK HYGIENIC PRACTICES: No food or drink should be allowed in areas where these products are handled. Personnel must wash thoroughly after handling the metal before drinking, eating or smoking.

EXPOSURE CONTROLS:

ACGIH TLV-TWA:	Tin	2mg/cu ACGIH 2mg/cu m (inorganic) OSHA 0/1mg/cu m (organic) OSHA
	Silver	0.1mg/cu m ACGIH/OSHA
	Bismuth	Not Regulated ACGIH/OSHA
	Copper	0.1mg/cu m ACGIH/OSHA
	Antimony	0.5mg/cu ACGIH/OSHA



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COMPONENTS WITH LIMIT VALUES THAT REQUIRE MONITORING AT THE WORKPLACE:

7440-31-5 TIN (Sn)

PEL – Long term value: 2 mg/m³

REL – Long term value: 2 mg/m³

TLV – long term value: 2 mg/m³

7440-36-0 Antimony (Sb)

PEL - Long term value: 0.5 mg/m³ as Sb

REL - Long term value: 0.5 mg/m³ & compounds, as Sb

TLV - Long term value: 0.5 mg/m³ as Sb

7440-22-4 Silver (Ag)

PEL - Long term value: 0.01 mg/m³ metal and soluble compounds (as Ag)

REL - Long term value: 0.01 mg/m³

TLV - Long term value: 0.1 mg/m³ metal, dust and fumes

7440-69-9 Bismuth (Bi)

PEL – Long term value: mg/m³ (Not listed)

REL – Long term value: mg/m³ (Not listed)

TLV – long term value: mg/m³ (Not listed)

7440-50-8 Copper (Cu)

PEL – Long term value: mg/m³ (Not listed)

REL – Long term value: mg/m³ (Not listed)

TLV – long term value: mg/m³ (Not listed)

NOTES:

PEL= Permissible Exposure Limit (OSHA)

TLV= Threshold Limit Value (ACGIH)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Solid

APPEARANCE: Silver grey

ODOR: Odorless

ODOR THRESHOLD:



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pH Value (-g/l): N/A
MELTING POINT/RANGE: 650-800°F, depending on composition.
BOILING POINT/RANGE:
BOILING POINT/RANGE:
FLASH POINT:
FREEZING POINT/RANGE:
EVAPORATION RATE:
FLAMMABILITY (SOLID, GAS):
FLAMMABILITY OR EXPLOSIVE LIMITS
UPPER:
LOWER:
VAPOR PRESSURE: Not applicable
VAPOR DENSITY: Not applicable
RELATIVE DENSITY: . 10.28 approx., depending on composition.
SOLUBILITY IN WATER: Insoluble
PARTITION COEFFICIENT; N-OCTANOL/WATER:
AUTOIGNITION TEMPERATURE:
DECOMPOSITION TEMPERATURE:
VISCOSITY:
MOLECULAR FORMULA:
MOLECULAR WEIGHT:
SOLVENT CONTENT: Organic solvents = 0/0%, Solid Content = 100.0%

SECTION 10: STABILITY AND REACTIVITY

REACTIVE HAZARD:

STABILITY: Stable under normal conditions. Antimony is air sensitive.

HAZARDOUS REACTIONS: None under normal processing.

CONDITIONS TO AVOID: Incompatible products. Excess heat. Avoid dust formation. Exposure to air.

INCOMPATIBILITY (MATERIAL TO AVOID): Strong oxidizing agents, oxidizers,

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Antimony oxide.

HAZARDOUS POLYMERIZATION: Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Toxicologically Synergistic No information available

Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Tin	7440-31-5	None	None	None	None	None
Silver (Ag)	7440-22-4	None	None	None	None	None
Bismuth (Bi)	7440-69-9	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Copper	7440-50-8	None	None	None	None	None
Antimony Powder	7440-36-0	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

IARC: (International Agency for Research on Cancer) *IARC: (International Agency for Research on Cancer)*



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Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program) NTP: (National Toxicity Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human

Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

A1 - Confirmed Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Confirmed Animal Carcinogen

A4 - Not Classifiable as a Human Carcinogen

A5 - Not Suspected as a Human Carcinogen

Mutagenic Effects: No information available

Reproductive Effects: No information available.

Developmental Effects: No information available.

Teratogenicity: No information available.

STOT - single exposure: ANTIMONY-Respiratory system

STOT - repeated exposure: ANTIMONY-Liver Kidney, Cardiovascular system

Aspiration hazard No information available

Symptoms / effects, both acute and delayed: No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

SECTION 12: ECOLOGICAL INFORMATION

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Tin	None	None	None	None
Copper	None	None	None	None
Antimony	Not Listed	Cyprinodon variegatus: LC50 = 6.2-8.3 mg/L/96h	Not Listed	Not Listed

ECOTOXICITY: Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. May cause long-term adverse effects in the environment.

PERSISTENCE AND DEGRADABILITY: Insoluble in water. May persist.

BIOACCUMULATIVE POTENTIAL: No information available.

MOBILITY IN SOIL: Is not likely mobile in the environment due its low water solubility.



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SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS:

Must not be disposed of together with household garbage. Do not allow to reach sewage system. Disposal must be made according to official regulations. If proper disposal methods are not available, return product to supplier for reprocessing.

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: TRANSPORT INFORMATION

LAND TRANSPORT (DOT/ADR/RID)

UN/NA NUMBER: UN2871
UN PROPER SHIPPING NAME: Antimony Powder
TRANSPORT HAZARD CLASS(ES): 6.1
PACKING GROUP: III

INLAND WATERWAY TRANSPORT (ADN)

UN/NA NUMBER: UN2871
UN PROPER SHIPPING NAME: Antimony Powder
TRANSPORT HAZARD CLASS(ES): 6.1
PACKING GROUP: III

SEA TRANSPORT (IMDG)

UN/NA NUMBER: UN2871
UN PROPER SHIPPING NAME: Antimony Powder
TRANSPORT HAZARD CLASS(ES): 6.1
PACKING GROUP: III

AIR TRANSPORT (ICAO-TI/IATA-DGR)

UN/NA NUMBER: UN2871
UN PROPER SHIPPING NAME: Antimony Powder
TRANSPORT HAZARD CLASS(ES): 6.1
PACKING GROUP: III

SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulations

TSCA 12(b) All components listed for the subject finished product are on the TSCA Inventory of Chemical Substances and are not subject to any chemical specific regulation under TSAC Section 12(b) export notification requirements delineated at 40 CFR part 707, subpart D. All ingredients are listed or exempt from listing.

SARA 313 Substance is listed.

SARA 311/312 Hazardous Categorization

Acute Health Hazard
Chronic Health Hazard
Fire Hazard
Sudden Release of Pressure Hazard



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Reactive Hazard

Proposition 65

This product does not contain any Proposition 65 chemicals.

Carcinogenic Categories

EPA (Environmental Protection Agency):

TLV (Threshold Limit Value established by ACGIH)

NIOSH-Ca (National Institute of Occupational Safety and Health)

OSHA-Ca (Occupational Safety & Health Administration)

SECTION 16: OTHER INFORMATION

PREPARATION INFORMATION

NAME: Terry Buck
COMPANY: Amerway, Inc.
EMAIL: tbuck@amerway.com

CREATION DATE: 01/01/2012

REVISION DATE: 11/25/2019

REVISION SUMMARY: This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

DISCLAIMER:

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End of SDS