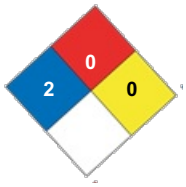
Personal Protective Equipment	WHMIS Pictograms	DOT Pictograms
 Safety Glasses;  Protective Gloves	 D2A Toxic	Not Regulated

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**Lead Solder Alloy**
Product Code:	Lead Solder Alloy
MSDS Manufacturer Number:	Lead Solder Alloy
Product Use/Restriction:	Solder
Manufacturer Name:	Kester
Address:	800 W. Thorndale Avenue Itasca, IL 60143
General Phone Number:	(630)-616-4000
Customer Service Phone Number:	(800)-2KESTER (253-7837)
CHEMTREC:	CHEMTREC 24-Hour Emergency Telephone Number: (800)424-9300 CHEMTREC 24-Hour Emergency Telephone Number: ((Outside of the U.S. and Canada):): (703)527-3887
Website:	msds@kester.com
MSDS Creation Date:	August 15, 2008
MSDS Revision Date:	March 11, 2010

NFPA



HMIS

Health Hazard	2*
Fire Hazard	0
Reactivity	0
Personal Protection	X

* Chronic Health Effects

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Antimony	7440-36-0	0 - 10 by weight	
Bismuth	7440-69-9	0 - 10 by weight	
Zinc	7440-66-6	0 - 10 by weight	
Copper	7440-50-8	0 - 10 by weight	
Lead	7439-92-1	0 - 100 by weight	
Tin	7440-31-5	0 - 100 by weight	
Silver	7440-22-4	0 - 10 by weight	

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:	CAUTION! Irritant. Exposures to soldering fumes and vapors may be irritating to eyes, respiratory system, and skin.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Eye:	Smoke during soldering can cause eye irritation.
Skin:	May cause irritation.
Inhalation:	Prolonged or excessive inhalation may cause respiratory tract irritation.
Ingestion:	May be harmful if swallowed. May cause vomiting.
Chronic Health Effects:	Suspected of damaging fertility or the unborn child Repeated and prolonged exposure to lead and lead compounds may cause abdominal pain, diarrhea, loss of appetite, metallic taste, nausea, vomiting, lassitude, insomnia, muscle weakness, joint and muscle pain, irritability, headache and dizziness. Red blood cells may be damaged resulting in anemia. Gastritis and injury to the kidneys, liver, male gonads, and central nervous system may also occur.
Lead :	
Carcinogenicity:	IARC: Group 2B: Possibly carcinogenic to humans.

SECTION 4 - FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point:	> 93 °C (> 199 °F)
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Unsuitable Media:	Do not use a solid water stream as it may scatter and spread fire.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
Hazardous Combustion Byproducts:	Oxides of carbon, oxides of nitrogen, aliphatic aldehydes, and other organic substances may be formed during combustion.. Melted solder above 1000 deg F will liberate toxic lead and/or antimony fumes

NFPA Ratings:

NFPA Health:	2
NFPA Flammability:	0
NFPA Reactivity:	0
NFPA Other:	

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Avoid inhaling vapors, mists, or fumes. Avoid contact with skin, eyes and clothing.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Methods for containment:	Melted solder will solidify on cooling and can be scraped up.
Methods for cleanup:	Solidfied solder can be scraped up upon cooling. Use caution to avoid breathing fumes if a gas torch is used to cut up large pieces.

SECTION 7 - HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and fumes. Use only in accordance with directions.
Storage:	No special storage conditions required.
Hygiene Practices:	Wash thoroughly after handling. Avoid inhaling vapors, mists, or fumes.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Safety glasses with side-shields.
Hand Protection Description:	Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data.
Respiratory Protection:	When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self- contained breathing apparatus should be worn.

EXPOSURE GUIDELINES

Antimony :

Guideline ACGIH:	TLV-TWA: 0.5 mg/m3
Guideline OSHA:	PEL-TWA: 0.5 mg/m3

Copper :

Guideline ACGIH:	TLV-TWA: 1 mg/m3
Guideline OSHA:	PEL-TWA: 1 mg/m3

Lead :

Guideline ACGIH:	TLV-TWA: 0.05 mg/m3
Guideline OSHA:	PEL-TWA: 0.05 mg/m3

Tin :

Guideline ACGIH:	TLV-TWA: 2 mg/m3
Guideline OSHA:	PEL-TWA: 2 mg/m3
Silver:	
Guideline ACGIH:	TLV-TWA: 0.1 mg/m3
Guideline OSHA:	PEL-TWA: 0.01 mg/m3

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Solid
Color:	Silver grey
Odor:	Odorless
Boiling Point:	Not determined.
Melting Point:	> 100 °C (> 212 deg F)
Density:	>7 g/cm³ (@ 20 °C (68 °F))
Flash Point:	> 93 °C (> 199 °F)

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	No thermal decomposition if used according to specifications.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.
Special Decomposition Products:	When heated to soldering temperatures, the solvents are evaporated and rosin may be thermally degraded to liberate aliphatic aldehydes and acids.

SECTION 11 - TOXICOLOGICAL INFORMATION

Antimony:	
Ingestion:	Oral - Rat LD50: 100 mg/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)
Bismuth:	
Ingestion:	Oral - Mouse LD50: 10 gm/kg [Details of toxic effects not reported other than lethal dose value.] Oral - Rat LD50: 5 gm/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)
Zinc:	
Skin:	Skin - Human Standard Draize Test. : 300 ug/3D-I - [mild](RTECS)
Inhalation:	Inhalation. - Human TCLo - Lowest published toxic concentration: 124 mg/m3/50M - [Lungs, Thorax, or Respiration - cough Lungs, Thorax, or Respiration - dyspnea Skin and Appendages - sweating] (RTECS)
Ingestion:	Oral - Bird duck LDLo: 388 mg/kg - [Autonomic Nervous System - other (direct) parasympathomimetic oral - ataxia Blood - changes in leukocyte (WBC) count] (RTECS)
Copper:	
Ingestion:	Oral - Mouse LD50: 413 mg/kg [Details of toxic effects not reported other than lethal dose value.] Oral - Mouse LD50: >5000 mg/kg [Behavioral - food intake (animal) Gastrointestinal - hypermotility, diarrhea Gastrointestinal - nausea or vomiting] (RTECS)
Silver:	
Ingestion:	Oral - Mouse LD50: 100 mg/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name:	Not Regulated.
DOT UN Number:	Not Regulated.
IATA Shipping Name:	Not Regulated.
IATA UN Number:	Not Regulated.
IMDG UN NUmber :	Not Regulated.
IMDG Shipping Name :	Not Regulated.
RID UN Number :	Not Regulated.

RID Shipping Name :	Not Regulated.

SECTION 15 - REGULATORY INFORMATION

Canada Reg. Status:	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.
Canada WHMIS:	Controlled - Class: D2A Very Toxic
Antimony :	
TSCA Inventory Status:	Listed
Canada DSL:	Listed
Bismuth :	
TSCA Inventory Status:	Listed
Canada DSL:	Listed
Zinc :	
TSCA Inventory Status:	Listed
Canada DSL:	Listed
Copper :	
TSCA Inventory Status:	Listed
Canada DSL:	Listed
Lead :	
TSCA Inventory Status:	Listed
Canada DSL:	Listed
Tin :	
TSCA Inventory Status:	Listed
Canada DSL:	Listed
Silver :	
TSCA Inventory Status:	Listed
Canada DSL:	Listed

WHMIS Pictograms

SECTION 16 - ADDITIONAL INFORMATION

General Use:	Solder
HMIS Health Hazard:	2*
HMIS Fire Hazard:	0
HMIS Reactivity:	0
HMIS Personal Protection:	X
MSDS Creation Date:	August 15, 2008
MSDS Revision Date:	March 11, 2010
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