

KESTER SOLDER DIV,LITTON SYSTEMS INC -- SOLDER ALLOYS CONTAINING LEAD --  
3439-01-039-0064

===== Product Identification =====

Product ID:SOLDER ALLOYS CONTAINING LEAD

MSDS Date:10/15/1996

FSC:3439

NIIN:01-039-0064

MSDS Number: CCMSJ

=== Responsible Party ===

Company Name:KESTER SOLDER DIV,LITTON SYSTEMS INC

Address:515 E TOUHY

City:DES PLAINES

State:IL

ZIP:60018-2675

Country:US

Info Phone Num:708-2

97-1600

Emergency Phone Num:708-297-1600

CAGE:75297

=== Contractor Identification ===

Company Name:GARDINER SOLDER COMPANY DIV GARDINER METAL CO

Address:4820 S CAMPBELL AVE

Box:City:CHICAGO

State:IL

ZIP:60632-1494

Country:US

Phone:312-847-0100 CHEMTREC AFTER HOURS

CAGE:84311

Company Name:KESTER SOLDER DIVISION OF LITTON SYSTEMS, INC.

Address:515 E. TOUHY AVENUE

Box:City:DES PLAINES

State:IL

ZIP:60018

Country:US

Phone:847-297-1600

CAGE:75297

===== Composition/Information on Ingredient

S =====

Ingred Name:LEAD (SARA 313) (CERCLA)  
CAS:7439-92-1  
RTECS #:OF7525000  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:SEE 1910.1025  
ACGIH TLV:0.05MG/M3, A3; 9596  
EPA Rpt Qty:1 LB  
DOT Rpt Qty:1 LB

Ingred Name:TIN  
CAS:7440-31-5  
RTECS #:XP7320000  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:2 MG/M3  
ACGIH TLV:2 MG/M3; 9596

Ingred Name:SILVER (SARA 313) (CERCLA)  
CAS:7440-22-4  
RTECS #:VW3500000  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:0.01 MG/M3  
ACGIH TLV:0.1 MG/M3; 9596  
EPA Rpt Qty:1 LB  
  
DOT Rpt Qty:1 LB

Ingred Name:BISMUTH  
CAS:7440-69-9  
RTECS #:EB2600000  
Other REC Limits:NONE RECOMMENDED

Ingred Name:ANTIMONY (SARA 313) (CERCLA)  
CAS:7440-36-0  
RTECS #:CC4025000  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:0.5 MG/M3  
ACGIH TLV:0.5 MG (SB)/M3; 9596  
EPA Rpt Qty:5000 LBS  
DOT Rpt Qty:5000 LBS

Ingred Name:COPPER (SARA 313) (CERCLA)  
CAS:7440-50-8  
RTECS #:GL5325000  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:0.1MG/M3 FUME/1 DUST  
ACGIH TLV:0.2 MG/M3 FUME; 9596  
EPA Rpt Qty:5000 LBS  
DOT Rpt

Qty:5000 LBS

Ingred Name:INDIUM  
CAS:7440-74-6  
RTECS #:NL1050000  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:0.1 MG/M3  
ACGIH TLV:0.1 MG/M3; 9596

===== Hazards Identification =====

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES  
Reports of Carcinogenicity:NTP:NO IARC:YES OSHA:NO  
Health Hazards Acute and Chronic:PRIMARY EXPOSURE DURING SOLDERING IS  
TO FLUX FUMES. INGESTION OF LEAD METAL CAN AFFECT KIDNEYS,  
GASTROINTESTINAL, REPRODUCTIVE AND  
NEUROLOGICAL SYSTEMS. OVER  
EXPOSURE TO LEAD MAY RESULT IN CENTRAL NERVOUS SYSTEM DISORDERS  
CHARACTERIZED BY DROWSINESS, SEIZURES, COMA AND DEATH.  
Explanation of Carcinogenicity:LEAD IS CLASSIFIED IARC-2B,EPA-B2.  
Effects of Overexposure:INHALATION: DROWSINESS, SEIZURES, COMA.  
Medical Cond Aggravated by Exposure:PERSONS WITH PRE-EXISTING DISEASES  
OF THE BLOOD OR BLOOD-FORMING ORGANS,KIDNEYS,NERVES AND  
REPRODUCTIVE SYSTEM MAY BE AT INCREASED RISK FROM EXPOSURE.

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==== First Aid Measures =====

First Aid:SKIN:REMOVE CONTAMINATED CLOTHING;WASH WITH COOL  
WATER.EYES:FLUSH WITH COOL WATER FOR 15 MINUTES.INHAL:REMOVE TO  
FRESH AIR.GIVE OXYGEN OR ARTIFICIAL RESPIRATION IF NEEDED.INGEST:DO  
NOT INDUCE VOMITING .GET PROMPT QUALIFIED MEDICAL ATTENTION.HAVE  
BLOOD ANALYZED FOR LEAD.

===== Fire Fighting Measures =====

Flash Point:NONE  
Lower Limits:NOT GIVEN  
Upper Limits:NOT GIVEN  
Extinguishing Medi

a:USE MEDIA APPROPRIATE FOR SURROUNDING FIRE.

Fire Fighting Procedures:USE A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE EQUIPMENT.

Unusual Fire/Explosion Hazard:MELTED SOLDER ABOVE 1000F EMITS TOXIC LEAD AND ANTIMONY FUMES.FLUX CORED SOLDER MAY IGNITE WHEN SOLDER MELTS IN FIRE.

===== Accidental Release Measures =====

Spill Release Procedures:MELTED SOLDER WILL SOLIDIFY AND CAN BE SCRAPED UP.USE RESPIRATORY PROTECTION IF A GAS TORCH IS USED TO CUT UP LARGE PIECES.

Neutralizing Agent:NOT APPLICABLE.

===== Handling and Storage =====

Handling and Storage Precautions:STORE AWAY FROM SOURCES OF SULFUR. USE OF STRONG ACID FLUXES MAY RESULT IN LIBERATION OF TOXIC LEAD CHLORIDE FUMES.

Other Precautions:AVOID BREATHING VAPORS. AVOID SKIN AND EYE CONTACT. DO NOT PLACE FLUX CORED SOLDER IN A HOT SOLDER POT BECAUSE THE FLUX MAY IGNITE.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:WHERE ENVIRONMENTAL CONTROLS ARE LACKING OR IN ENCLOSED SPACES USE A NIOSH/MSHA APPROVED RESPIRATOR FOR ORGANIC VAPORS.

Ventilation:LOCAL VENTILATION AT THE WORKSITE;MECHANICAL(GENERAL) VENTILATION TO MAINTAIN TLV/PEL.

Protective Gloves:NOT NEEDED IN NORMAL SERVICE.

Eye Protection:SOLDERING GOGGLES,FACE SHIELD.

Other Protective Equipment:PROTECTIVE CLOTHING,AS NEEDED.PROVIDE A LOCAL EYE WASH STATION AND SAFETY SHOWER.

Work Hygienic Practices:

WASH HANDS AFTER HANDLING SOLDER CONTAINING LEAD BEFORE EATING OR SMOKING.

Supplemental Safety and Health

TO CHOOSE THE PROPER WELDING LENS, FIRST CHOOSE THE LENS WHICH BLOCKS OUT THE RAYS; THEN USE THE NEXT LOWEST FILTER.

===== Physical/Chemical Properties =====

HCC:N1

Boiling Pt:B.P. Text:NOT GIVEN

Melt/Freeze Pt:M.P/F.P Text:NOT GIVEN

Decomp Temp:Decomp Text:NOT GIVEN

Vapor Pres:NOT GIVEN

Vapor Density:NOT GIVEN

Spec Gravity:> 1

Evaporation Rate &

Reference:NOT GIVEN  
Solubility in Water:INSOLUBLE  
Appearance and Odor:SILVER-GRAY METAL BAR,WIRE,RIBBON OR PREFORMED  
SHAPES, NO ODOR  
Percent Volatiles by Volume:NONE

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES  
STRONG ACIDS, STRONG OXIDIZERS.  
Stability Condition to Avoid:HEAT ABOVE 1000F/537C.  
Hazardous Decomposition Products:LEAD,ANTIMONY(>1000F).STRONG ACIDS  
FLUXES MAY LIBERATE LEAD CHLORIDE FUMES.

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== Disposal Considerations =====

Waste Disposal Methods:DISPOSE OF IN ACCORDANCE WITH FEDERAL,STATE AND  
LOCAL REGULATIONS.

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