

## 1 PRODUCT AND COMPANY IDENTIFICATION

**Trade name: Lead Solder Alloy (Sn63Pb37; Sn60Pb40; Sn50Pb50; Sn40Pb60)**  
**Relevant identified uses of the substance or mixture and uses advised against**  
Solder  
Professional use of lead solder

**Details of the supplier of the safety data sheet**

This Safety Data Sheet has been updated in accordance with the Globally Harmonized System (GHS).

**Manufacturer/Supplier:**

Kester  
800 West Throntdale Ave.  
Itasca, IL 60143  
Tel (630) 616-4000  
Fax (630) 616-4044

Kester Components Pte Ltd  
500 Chai Chee Lane  
Singapore 469024  
Tel: 65-64491133

**Information department:** Product Compliance: EHS\_Kester@kester.com

**Emergency telephone number:**

CHEMTREC 24-Hour Emergency Response Telephone Number : (800) 424-9300  
CHEMTREC 24-Hour Emergency Response (Outside US & Canada) Telephone Number : (703) 527-3887

## 2 HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008**



GHS08 Health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Aquatic Chronic 4 H413 May cause long lasting harmful effects to aquatic life.

**Label elements**

**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labeled according to the CLP regulation.

**Hazard pictograms**



GHS07 GHS08

Signal word Warning

Hazard-determining components of labeling:

LEAD (Pb)

Hazard statements

H302 Harmful if swallowed.

H361 Suspected of damaging fertility or the unborn child.

# SAFETY DATA SHEET (SDS)

According to 1907/2006/EC, Article 31

Printing Date 02/07/2014

Version number 9

Reviewed on 02/07/2014

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H373 May cause damage to organs through prolonged or repeated exposure.

H413 May cause long lasting harmful effects to aquatic life.

**Precautionary statements**

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304+P341 **IF INHALED:** If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P302+P352 **IF ON SKIN:** Wash with plenty of soap and water.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**
**NFPA ratings (scale 0 - 4)**


Health = 2

Fire = 0

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**


Health = \*2

Fire = 0

Reactivity = 0

**Other hazards**
**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

## 3 COMPOSITION OF MIXTURE

**Chemical characterization: Mixtures**

**Description:** Mixture: consisting of the following components.

CAS No.	Description	% Range
CAS: 7440-31-5 EINECS: 231-141-8	TIN (Sn)	40-65%
CAS: 7439-92-1 EINECS: 231-100-4	LEAD (Pb)	⚠ Repr. 2, H361; STOT RE 2, H373 ⚠ Acute Tox. 4, H302 ⚠ Aquatic Chronic 4, H413

**Additional information:**

Composition and weight percent of solder alloys varies widely and can be determined by product label.

This solder product does not contain any Substance of Very High Concern (SVHC) on the European Chemicals Agency (ECHA) candidate list.

## 4 FIRST AID MEASURES

**Description of first aid measures**

**General information:** Follow general first aid procedures.

**After inhalation:** Supply fresh air.

**After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** Seek immediate medical advice.

**Information for doctor:**

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

USA

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## 5 FIREFIGHTING MEASURES

### Extinguishing media

**Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.

### Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Nitrogen oxides (NO<sub>x</sub>)

Carbon dioxide (CO<sub>2</sub>)

### Advice for firefighters

**Protective equipment:** Wear self-contained respiratory protective device.

## 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation

**Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

### Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Melted solder will solidify on cooling and can be scraped up. Use caution to avoid breathing fumes if a gas torch is used to cut up large pieces.

### Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 HANDLING AND STORAGE

### Handling:

**Precautions for safe handling** Prevent formation of dust.

**Information about protection against explosions and fires:** No special measures required.

### Conditions for safe storage, including any incompatibilities

#### Storage:

Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility: Not required.

Further information about storage conditions:

Store in dry conditions.

Exposure to sulfur or to high humidity will tarnish solder surface.

**Specific end use(s)** No further relevant information available.

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

**Additional information about design of technical systems:** No further data; see item 7.

### Control parameters

**Components with limit values that require monitoring at the workplace:**

#### 7439-92-1 LEAD (Pb)

PEL Long-term value: 0.05\* mg/m<sup>3</sup>

\*see 29 CFR 1910.1025

REL Long-term value: 0.05\* mg/m<sup>3</sup>

\*8-hr TWA, excl. lead arsenate; See PocketGuideApp.C

TLV Long-term value: 0.05\* mg/m<sup>3</sup>

\*and inorganic compounds, as Pb; BEI

#### Additional information:

PEL = Permissible Exposure Limit (OSHA)

TLV = Threshold Limit Value (ACGIH)

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OSHA= Occupational Safety and Health Administration  
ACGIH= American Conference of Governmental Industrial Hygienists

## Exposure controls

### Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Breathing equipment:

Exposure Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation to control airborne levels below recommended exposure limits.

When ventilation is not sufficient to remove airborne levels from the breathing zone, a NIOSH safety approved respirator or self-contained breathing apparatus should be worn. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Protection of hands:



Protective gloves

Material of gloves:

Cloth gloves

Nitrile rubber, NBR

Natural rubber, NR

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Safety glasses



Face Shield with Safety Glasses when refilling.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

#### General Information

Appearance:

Form:	Solid
Color:	Silver grey
Odor:	Odorless

**pH-value:** Not applicable.

#### Change in condition

Melting point/Melting range: 183 - 238 °C (361 - 460 °F)

**Flash point:** Undetermined.

**Flammability (solid, gaseous):** Not determined.

**Auto igniting:** Product is not selfigniting.

**Danger of explosion:** Product does not present an explosion hazard.

**Vapor pressure:** Not applicable.

**Density at 20 °C (68 °F):** 8.4 - 9.3 g/cm<sup>3</sup> (70.098 - 77.60 lbs/gal)

Vapour density: Not applicable.

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- USA

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**Solubility in / Miscibility with**

Water: Insoluble.

**Solvent content:**

Organic solvents: 0.0 %

Solids content: 100.0 %

## 10 STABILITY AND REACTIVITY

**Reactivity**

**Chemical stability**

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions No dangerous reactions known.

Conditions to avoid No further relevant information available.

Incompatible materials: Strong acids, strong oxidizers.

## 11 TOXICOLOGICAL INFORMATION

**Information on toxicological effects**

**Acute toxicity:**

Primary irritant effect:

on the skin: No irritant effect.

on the eye: No irritating effect.

through ingestion:

May cause gastrointestinal irritation.

May be harmful if swallowed.

**Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

**Carcinogenic categories**

IARC (International Agency for Research on Cancer)

7439-92-1 | LEAD (Pb)

2B

NTP (National Toxicology Program)

7439-92-1 | LEAD (Pb)

R

## 12 ECOLOGICAL INFORMATION

**Toxicity**

**Aquatic toxicity:** No further relevant information available.

**Additional ecological information:**

**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

## 13 DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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*Disposal must be made according to official regulations.*

**Uncleaned packagings:**

**Recommendation:** *Disposal must be made according to official regulations.*

## 14 TRANSPORT INFORMATION

UN-Number	Not regulated
ADR	Not regulated
UN proper shipping name	Not regulated
IMDG, IATA	Not regulated
Transport hazard class(es)	
<b>DOT, ADR, IMDG, IATA</b>	
Class	Not regulated.
Packing group	Not regulated
Marine pollutant:	No
Special marking (ADR):	Not Regulated
Special marking (IATA):	Not Regulated
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

## 15 REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

USA The following information relates to product regulation specific to the USA.

SARA (Superfund Amendments and Reauthorization Act)

Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

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TSCA (Toxic Substances Control Act): Kester certifies that all components listed below for the subject finished product are on the TSCA Inventory of Chemical Substances and are not subject to any chemical specific regulation under TSCA Section 12(b) export notification requirements delineated at 40 CFR part 707, subpart D.

All ingredients are listed or exempt from listing.

California Proposition 65

Chemicals known to cause cancer:

WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

LEAD (Pb)

Chemicals known to cause reproductive toxicity:

WARNING: This product contains a chemical(s) known to the State of California to cause birth defects and/or other reproductive harm.

LEAD (Pb)

Carcinogenic categories

EPA (Environmental Protection Agency)

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B2

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

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

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CANADA: Not classified.

### Labelling according to Regulation (EC) No 1272/2008

The product is classified and labeled according to the CLP regulation.

Hazard pictograms



GHS07 GHS08

Signal word *Warning*

Hazard-determining components of labeling:

LEAD (Pb)

Hazard statements

H302 Harmful if swallowed.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

H413 May cause long lasting harmful effects to aquatic life.

Precautionary statements

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 OTHER INFORMATION

The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester extends no warranties, makes no representations and assumes no responsibility as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Material Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Material Safety Data Sheet as a source for hazard information.

**Department issuing Safety Data Sheet (SDS):** Product Compliance / EHS Department

**Contact:** EHS\_Kester@kester.com

### Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Acute Tox. 4: Acute toxicity, Hazard Category 4

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Aquatic Chronic 4: Hazardous to the aquatic environment - Chronic Hazard, Category 4

**\* Data compared to the previous version altered.**