

## 1 PRODUCT AND COMPANY IDENTIFICATION

**Trade name: 285 Flux Cored Solder Sn63Pb37; Sn60Pb40**

**Relevant identified uses of the substance or mixture and uses advised against**

Solder

Professional use of lead solder

Application of the substance / the preparation: 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

Resp. Sens. 1B H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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.

Skin Sens. 1B H317 May cause an allergic skin reaction.

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 *Danger*

# SAFETY DATA SHEET (SDS)

According to 1907/2006/EC, Article 31

Printing Date 01/10/2014

Version number 6

Reviewed on 01/10/2014

Trade name: 285 Flux Cored Solder Sn63Pb37; Sn60Pb40

(Contd. of page 1)

**Hazard-determining components of labeling:**

LEAD (Pb)

Rosin

**Hazard statements**

H302 Harmful if swallowed.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

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 water/...

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

**Hazard description:****WHMIS Symbols**

D1A - Very toxic material causing immediate and serious toxic effects

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

Health = 2

Fire = 1

Reactivity = 0

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

Health = \*2

Fire = 1

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 of the substances listed below with nonhazardous additions.

CAS No.	Description	% Range	
CAS: 7440-31-5 EINECS: 231-141-8	TIN (Sn)	50-65%	
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	35-40%
CAS: 8050-09-7 EINECS: 232-475-7	Rosin	Resp. Sens. 1B, H334 Skin Sens. 1B, H317	2.5-5.0%

(Contd. on page 3)

USA

# SAFETY DATA SHEET (SDS)

According to 1907/2006/EC, Article 31

Printing Date 01/10/2014

Version number 6

Reviewed on 01/10/2014

**Trade name: 285 Flux Cored Solder Sn63Pb37; Sn60Pb40**

(Contd. of page 2)

**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; consult doctor in case of complaints.

**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.*

## 5 FIREFIGHTING MEASURES

**Extinguishing media**

**Suitable extinguishing agents:** CO2. Do not use water.

**For safety reasons unsuitable extinguishing agents:** Water

**Special hazards arising from the substance or mixture**

*In case of fire, the following can be released:*

Carbon monoxide (CO)

Carbon dioxide (CO2)

Aliphatic aldehydes

**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.*

(Contd. on page 4)

USA

# SAFETY DATA SHEET (SDS)

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

(Contd. of page 3)

## 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)

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.

Immediately remove all soiled and contaminated clothing.

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.

USA

(Contd. on page 5)

# SAFETY DATA SHEET (SDS)

According to 1907/2006/EC, Article 31

Printing Date 01/10/2014

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Trade name: 285 Flux Cored Solder Sn63Pb37; Sn60Pb40

(Contd. of page 4)

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

#### General Information

Appearance:

Form: Solid  
Color: Silver grey  
Odor: Mild

**pH-value:** Not applicable.

#### Change in condition

Melting point/Melting range: 183 °C (361 °F)  
Undetermined.

**Flash point:** Undetermined.

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

#### Ignition temperature:

Decomposition temperature: Not determined.

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

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

**Vapor pressure:** Not applicable.

#### Density:

Vapour density: Not applicable.

#### Solubility in / Miscibility with

Water: Insoluble.

## 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.

#### Hazardous decomposition products:

Carbon monoxide and carbon dioxide

When heated to soldering temperatures, the solvents are evaporated and rosin may be thermally degraded to liberate aliphatic aldehydes and acids.

## 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Acute toxicity:

LD/LC50 values that are relevant for classification:

#### 8050-09-7 Rosin

Oral	LD50	2.2 mg/kg (mouse)
		3.0 mg/kg (rat)

Primary irritant effect:

on the skin:

Irritant to skin and mucous membranes.

Possible local irritation by contact with flux or fumes.

(Contd. on page 6)

USA

# SAFETY DATA SHEET (SDS)

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**Trade name: 285 Flux Cored Solder Sn63Pb37; Sn60Pb40**

(Contd. of page 5)

*on the eye:*

*Irritating effect.*

*Smoke during soldering can cause eye irritation.*

*through inhalation:*

*Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system.*

*through ingestion: May be harmful if swallowed.*

**Additional toxicological information:**

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

*Harmful*

*Irritant*

*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.*

*Disposal must be made according to official regulations.*

**Uncleaned packagings:**

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

## 14 TRANSPORT INFORMATION

**UN-Number**

**ADR**

*Not regulated*

**UN proper shipping name**

**ADR**

*Not applicable*

**IMDG, IATA**

*Not regulated*

**Transport hazard class(es)**

**DOT, ADR, IMDG, IATA**

**Class**

*Not regulated.*

**Packing group**

**DOT, ADR**

*Not applicable*

**Environmental hazards:**

**Marine pollutant:**

*No*

**Special precautions for user**

*Not applicable.*

(Contd. on page 7)

USA

# SAFETY DATA SHEET (SDS)

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Transport in bulk according to Annex II of MARPOL73/78  
and the IBC Code

Not applicable.

(Contd. of page 6)

## 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):

7439-92-1 | LEAD (Pb)

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)

7439-92-1 | LEAD (Pb)

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.

CANADA:

Workplace Hazardous Materials Identification (WHMIS):

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR) and the Safety Data Sheet (SDS) contains all of the information required by the CPR.

**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 Danger

Hazard-determining components of labeling:

LEAD (Pb)

Rosin

Hazard statements

H302 Harmful if swallowed.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

(Contd. on page 8)

USA

# SAFETY DATA SHEET (SDS)

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(Contd. of page 7)

H317 May cause an allergic skin reaction.

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 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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

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)

WHMIS: Workplace Hazardous Materials Information System (Canada)

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