SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Trade name: R560 Lead (Pb) Solder Paste (Sn63Pb37)
1.2 Relevant identified uses of the substance or mixture and uses advised against
   No further relevant information available.

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier:
- Kester Inc.
  800 West Thorndale Avenue
  Itasca, IL 60143
  Tel 00+1 + 630 616 4000

- ITW Specialty Materials (Suzhou) Co., Ltd.
  Hengqiao Road, Wujiang Economic Development Zone
  Suzhou, Jiangsu Province, China 215200
  Tel +86 512 82060807

- Kester GmbH
  Ganghofer Strasse 45
  D-82216 Gernlinden Germany
  Tel +49 (0) 8142 4785 0

Further information obtainable from: Product Compliance: EHS_Kester@kester.com

1.4 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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

- GHS08 health hazard

- Carc. 2  H351  Suspected of causing cancer.
- Repr. 1B  H360  May damage 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.
- Acute Tox. 4  H332  Harmful if inhaled.
- Skin Sens. 1  H317  May cause an allergic skin reaction.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.
Hazard pictograms

- GHS07
- GHS08
Trade name: R560 Lead (Pb) Solder Paste (Sn63Pb37)

Signal word Danger

Hazard-determining components of labelling:
LEAD (Pb)
Rosin
Halogenated organic diol

Hazard statements
H302+H332 Harmful if swallowed or inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:
Restricted to professional users.
Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.

2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

Description: Mixture of substances listed below with nonhazardous additions.

Chemical components:

<table>
<thead>
<tr>
<th>CAS: 7439-92-1</th>
<th>LEAD (Pb)</th>
<th>Carc. 2; H351; Repro. 1B; H360; STOT RE 2; H373</th>
<th>Acute Tox. 4, H302; Acute Tox. 4, H332</th>
<th>25-40%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 8050-09-7</td>
<td>Rosin</td>
<td>Skin Sens. 1; H317</td>
<td></td>
<td>1-3%</td>
</tr>
<tr>
<td>EINECS: 231-100-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EINECS: 232-475-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade Secret</td>
<td>Halogenated organic diol</td>
<td>Acute Tox. 4; H302; Eye Irrit. 2; H319; Skin Sens. 1B, H317</td>
<td>≥0.1-%</td>
<td></td>
</tr>
</tbody>
</table>

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

SECTION 4: First aid measures

4.1 Description of first aid measures
General information:
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Follow general first aid procedures.
SAFETY DATA SHEET (SDS)  
according to 1907/2006/EC, Article 31

Printing Date: 13.12.2017  
Version number: 6  
Revision: 13.12.2017

Trade name: R560 Lead (Pb) Solder Paste (Sn63Pb37)

(Continued from page 2)

After inhalation:  
In case of unconsciousness place patient stably in side position for transportation.  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
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.  

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

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

SECTION 5: Firefighting measures

5.1 Extinguishing media  
Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.  

5.2 Special hazards arising from the substance or mixture  
In case of fire, the following can be released:

5.3 Advice for firefighters  
Protective equipment: No special measures required.

SECTION 6: Accidental release measures

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

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

6.3 Methods and material for containment and cleaning up:  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  

6.4 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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling  
Thorough dedusting.  
Information about fire - and explosion protection: No special measures required.

7.2 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: Keep container tightly sealed.  

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

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.  
(Continued on page 4)
8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>CAS: 8050-09-7 Rosin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term value: 0.15 mg/m³</td>
</tr>
<tr>
<td>Long-term value: 0.05 mg/m³</td>
</tr>
<tr>
<td>Sen</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.

Respiratory protection:  
Not necessary if room is well-ventilated.
Use suitable respiratory protective device in case of insufficient ventilation.

Protection of hands:

Protective gloves

Material of 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 with Side Shields Required

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:
Form: Paste
Colour: Silver grey
Odour: Mild

pH-value: Not applicable.

Change in condition
Melting point/freezing point: Undetermined.
Initial boiling point and boiling range: 198 °C

Flash point: Not Applicable

Flammability (solid, gas): Not determined.

Auto-ignition temperature: Product is not selfigniting.
Trade name: R560 Lead (Pb) Solder Paste (Sn63Pb37)

(Continued from page 4)

Explosive properties: Product does not present an explosion hazard.
Vapour pressure at 970 °C: 1.3 hPa
Density: Not determined.
Vapour density: Not applicable.
Solubility in / Miscibility with water: Insoluble.
Solvent content:
Organic solvents: 0.0 %
Solids content: 99.0 %

SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.
10.2 Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
10.3 Possibility of hazardous reactions No dangerous reactions known.
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials: No further relevant information available.
10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
Harmful if swallowed or if inhaled.

LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>CAS: 7439-92-1 LEAD (Pb)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
<td>500 mg/kg (ATE)</td>
<td></td>
</tr>
<tr>
<td>Inhalative LC50/4 h</td>
<td>1.5 mg/l (ATE)</td>
<td></td>
</tr>
</tbody>
</table>

Primary irritant effect:
Skin corrosion/irritation Based on available data, the classification criteria are not met.
Serious eye damage/irritation Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation
May cause an allergic skin reaction.
CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
Germ cell mutagenicity Based on available data, the classification criteria are not met.
Carcinogenicity
Suspected of causing cancer.
Reproductive toxicity
May damage fertility or the unborn child.
STOT-single exposure Based on available data, the classification criteria are not met.
STOT-repeated exposure
May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard Based on available data, the classification criteria are not met.

(Continued on page 6)
SECTION 12: Ecological information

12.1 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.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Uncleaned packaging:
Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN-Number
IMDG, IATA
14.2 UN proper shipping name
ADR, ADN, IMDG, IATA
14.3 Transport hazard class(es)
ADR, ADN, IMDG, IATA
Class
14.4 Packing group
ADR, IMDG, IATA
14.5 Environmental hazards:
Not applicable.
14.6 Special precautions for user
Not applicable.
14.7 Transport in bulk according to Annex II of Marpol
and the IBC Code
UN "Model Regulation":

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
All ingredients are listed on the following Government Inventories:
China: Inventory of Existing Chemical Substances in China (IECSC)
Korea: Korea Existing Chemicals List (ECL)
Europe: European Inventory of Existing Commercial Chemical Substances (EINECS)
Japan: Inventory of Existing and New Chemical Substances (ENCS)
Philippines: Philippine Inventory of Chemicals and Chemical Substances (PICCS)
USA: TSCA (Toxic Substances Control Act) TSCA Inventory of Chemical Substances

Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.
Hazard pictograms

GHS07  GHS08

Signal word Danger

Hazard-determining components of labelling:
LEAD (Pb)
Rosin
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Hazard statements
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P308+P313 IF EXPOSED OR CONCERNED: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Directive 2012/18/EU
Named dangerous substances - ANNEX I None of the ingredients is listed.
REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 30

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

SECTION 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 Safety Data Sheet (SDS) 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 Safety Data Sheet (SDS) as a source for hazard information.

Department issuing SDS: Product Compliance / EHS Department
Contact: EHS_Kester@kester.com

Abbreviations and acronyms:
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
IATA: International Air Transport Association
GHS: Globally Harmonised 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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

(Continued on page 8)
**Trade name: R560 Lead (Pb) Solder Paste (Sn63Pb37)**

- **PBT**: Persistent, Bioaccumulative and Toxic
- **SVHC**: Substances of Very High Concern
- **vPvB**: very Persistent and very Bioaccumulative
- **Acute Tox. 4**: Acute toxicity – Category 4
- **Eye Irrit. 2**: Serious eye damage/eye irritation – Category 2
- **Skin Sens. 1**: Skin sensitisation – Category 1
- **Skin Sens. 1B**: Skin sensitisation – Category 1B
- **Carc. 2**: Carcinogenicity – Category 2
- **Carc. 2**: Carcinogenicity – Category 2
- **Repr. 1B**: Reproductive toxicity – Category 1B
- **STOT RE 2**: Specific target organ toxicity (repeated exposure) – Category 2

(Continued from page 7)