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

Trade name: 88 Lead (Pb) Alloy Solder Wire

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 Thordale Avenue
Itasca, IL 60143
Tel 00+1 + 630 616 4000

ITW Specialty Materials (Suzhou) Co., Ltd.
Hengqiao Road, Wujian 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.

(Continued on page 2)
Hazard pictograms

GHS07  GHS08

Signal word  Danger

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

Hazard statements
H302+H332 Harmful if swallowed or if 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
P101  If medical advice is needed, have product container or label at hand.
P102  Keep out of reach of children.
P103  Read label before use.
P280  Wear protective gloves/protective clothing/eye protection/face protection.
P270  Do not eat, drink or smoke when using this product.
P301+P330+P331  IF SWALLOWED: rinse mouth. DO NOT induce vomiting.
P304+P340  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P333+P313  IF skin irritation or rash occurs: Get medical advice/attention.
P302+P352  IF ON SKIN: Wash with plenty of soap and water.
P405  Store locked up.
P501  Dispose of contents/container in accordance with local/regional/national/international regulations.

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

SECTION 3: Composition/information on ingredients

Description: Mixture of substances listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>Chemical components</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 7439-92-1</td>
<td>LEAD (Pb)</td>
</tr>
<tr>
<td>EINECS: 231-100-4</td>
<td></td>
</tr>
</tbody>
</table>

| Rosin               |

Additional information:
* Composition and weight percent of solder alloys varies widely and can be determined by product label.
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.
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:
Carbon monoxide (CO)
Carbon dioxide (CO2)
Aliphatic aldehydes

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.
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.

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.
SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Rosin</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WELT</td>
<td></td>
</tr>
<tr>
<td>Short-term value: 0.15 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Long-term value: 0.05 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Sen</td>
<td></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:
When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self-contained breathing apparatus should be worn.
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
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 with Side Shields Required

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information
Appearance:
Form: Solid material
Trade name: 88 Lead (Pb) Alloy Solder Wire

(Continued from page 4)

Colour: Silver grey
Odour: Odourless
pH-value: Not applicable.
Change in condition
Melting point/freezing point: > 100 °C
Initial boiling point and boiling range: 1740 °C
Flash point: Not Applicable
Flammability (solid, gas): Not determined.
Auto-ignition temperature: Product is not selfigniting.
Explosive properties: Product does not present an explosion hazard.
Vapour pressure: Not applicable.
Density at 20 °C: 8.4 g/cm³
Vapour density Not applicable.
Solubility in / Miscibility with water: Insoluble.
Solvent content: Organic solvents: 0.0 %
Solids content: 100.0 %

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: Strong acids, strong oxidizers.
10.6 Hazardous decomposition products:
Carbon monoxide and carbon dioxide
When heated, the solvents are evaporated and rosin may be thermally degraded to liberate aliphatic aldehydes, acids, and terpenes.

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>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Inhalative</td>
</tr>
</tbody>
</table>

Primary irritant effect:
Skin corrosion/irritation Possible local irritation by contact with flux or fumes.

(Continued on page 6)
Trade name: 88 Lead (Pb) Alloy Solder Wire

<table>
<thead>
<tr>
<th>Serious eye damage/irritation</th>
<th>Smoke during soldering can cause eye irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)</td>
<td>Germ cell mutagenicity Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Suspected of causing cancer.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>May damage fertility or the unborn child.</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
</tbody>
</table>

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.
Danger to drinking water if even small quantities leak into the ground.
The product contains heavy metals. Avoid transfer into the environment. Specific preliminary treatments are necessary.

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 Void
14.2 UN proper shipping name
ADR, ADN, IMDG, IATA Void
14.3 Transport hazard class(es)
ADR, ADN, IMDG, IATA
Class Void
14.4 Packing group
ADR, IMDG, IATA Void
14.5 Environmental hazards:
Marine pollutant: No
14.6 Special precautions for user
14.7 Transport in bulk according to Annex II of Marpol
and the IBC Code Not applicable.

(Continued on page 7)
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

![Hazard pictograms]

Signal word Danger

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

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P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 63

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.
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:**
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 Organisation  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (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  
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  
PBT: Persistent, Bioaccumulative and Toxic  
PvB: very Persistent and very Bioaccumulative  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Sens. 1: Skin sensitisation – Category 1  
Carc. 2: Carcinogenicity – Category 2  
Repr. 1B: Reproductive toxicity – Category 1B  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2  
* Data compared to the previous version altered.