1 PRODUCT AND COMPANY IDENTIFICATION

Trade name: 275 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 Thomdale Avenue  
Itasca, IL 60143 USA  
Tel: (630) 616-4000  
Tel International: 00 1 630 616-4000  
ITW Specialty Materials (Suzhou) Co., Ltd.  
Heng Qiao Road  
Wujiang Economic Development Zone  
Suzhou, Jiangsu 215200 China  
Tel: +86 512 82060808  
Kester GmbH  
Ganghofer Strasse 45  
D-82216 Gernlinden Germany  
Tel: +49 (0) 8142 4785 0

Information department: 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

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. 1 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 labeled according to the CLP regulation.

(Contd. on page 2)
Hazard pictograms

![Pictogram](image)

GHS07  GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**
- LEAD (Pb)
- Acid Modified Hydrogenated Rosin
- Organic acid

**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**
- P260  Do not breathe dust/fume/gas/mist/vapors/spray.
- P280  Wear protective gloves/protective clothing/eye protection/face protection.
- P264  Wash thoroughly after handling.
- P270  Do not eat, drink or smoke when using this product.
- P201  Obtain special instructions before use.
- P202  Do not handle until all safety precautions have been read and understood.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P405  Store locked up.
- P501  Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard description:**

**WHMIS Symbols**

 Classification system:

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

- Health = 2
- Fire = 0
- Reactivity = 0

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

- Health = *1
- Fire = 0
- Reactivity = 0

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

(Contd. of page 1)
3 COMPOSITION OF MIXTURE

Description: Mixture of the substances listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Description</th>
<th>% Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 7440-31-5</td>
<td>TIN (Sn)</td>
<td>55-70%</td>
</tr>
<tr>
<td>EINECS: 231-141-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 7439-92-1</td>
<td>LEAD (Pb)</td>
<td>25-40%</td>
</tr>
<tr>
<td>EINECS: 231-100-4</td>
<td>Carc. 2; H351: Repro. 1B, H360; STOT RE 2; H373</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute Tox. 4, H302; Acute Tox. 4, H332</td>
<td></td>
</tr>
<tr>
<td>Acid Modified Hydrogenated Rosin</td>
<td></td>
<td>1.0-3.0%</td>
</tr>
<tr>
<td>Rosin</td>
<td></td>
<td>1.0-3.0%</td>
</tr>
<tr>
<td>Acute Tox. 5; H303</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organic acid</td>
<td>Acute Tox. 4; H302; Eye Irrit. 2A, H319; Skin Sens. 1, H317</td>
<td>0.1-&lt;1%</td>
</tr>
</tbody>
</table>

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: 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.

5 FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents:
CO2, extinguishing 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.

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.
Protective Action Criteria for Chemicals

PAC-1:

<table>
<thead>
<tr>
<th>CAS: 7440-31-5</th>
<th>TIN (Sn)</th>
<th>6 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 7439-92-1</td>
<td>LEAD (Pb)</td>
<td>0.15 mg/m³</td>
</tr>
</tbody>
</table>

PAC-2:

<table>
<thead>
<tr>
<th>CAS: 7440-31-5</th>
<th>TIN (Sn)</th>
<th>67 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 7439-92-1</td>
<td>LEAD (Pb)</td>
<td>120 mg/m³</td>
</tr>
</tbody>
</table>

PAC-3:

<table>
<thead>
<tr>
<th>CAS: 7440-31-5</th>
<th>TIN (Sn)</th>
<th>400 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 7439-92-1</td>
<td>LEAD (Pb)</td>
<td>700 mg/m³</td>
</tr>
</tbody>
</table>

7 HANDLING AND STORAGE

7.1 Precautions for safe handling
Thorough dusting.
Prevent formation of dust.
Information about protection against explosions and fires: 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 receptacle tightly sealed.

7.3 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.

8.1 Control parameters
Components with limit values that require monitoring at the workplace:
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

CAS: 7440-31-5 TIN (Sn)

<table>
<thead>
<tr>
<th>PEL</th>
<th>Long-term value: 2 mg/m³ metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>REL</td>
<td>Long-term value: 2 mg/m³</td>
</tr>
<tr>
<td>TLV</td>
<td>Long-term value: 2 mg/m³ metal</td>
</tr>
</tbody>
</table>

CAS: 7439-92-1 LEAD (Pb)

<table>
<thead>
<tr>
<th>PEL</th>
<th>Long-term value: 0.05* mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>REL</td>
<td>Long-term value: 0.05* mg/m³</td>
</tr>
</tbody>
</table>

*8-hr TWA; See PocketGuide App.C
Trade name: 275 Lead (Pb) Alloy Solder Wire

(Contd. of page 4)

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

8.2 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:
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

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 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)
Boiling point/Boiling range: >999 °C (>1830 °F)

Flash point: NA °C

Flammability (solid, gaseous): Not determined.

(Contd. on page 6)
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.

11 TOXICOLOGICAL INFORMATION

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

LD/LC50 values that are relevant for classification:
CAS: 7439-92-1 LEAD (Pb)

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50/LC50</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>500 mg/kg (ATE)</td>
<td></td>
</tr>
<tr>
<td>Inhalative</td>
<td>1.5 mg/l (ATE)</td>
<td></td>
</tr>
<tr>
<td>Rosin</td>
<td>Oral</td>
<td>&gt; 4000 mg/kg (Rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50</td>
<td>&gt; 2500 mg/kg (rabbit)</td>
</tr>
</tbody>
</table>

Primary irritant effect:
on the skin: Based on available data, the classification criteria are not met.
on the eye: Based on available data, the classification criteria are not met.

Sensitization:
May cause an allergic skin reaction.

Additional toxicological information:

Carcinogenic categories
IARC (International Agency for Research on Cancer)
CAS: 7439-92-1 LEAD (Pb) 2B

NTP (National Toxicology Program)
CAS: 7439-92-1 LEAD (Pb) H

(Contd. on page 7)
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.

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

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Recommendation:
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 TRANSPORT INFORMATION

14.1 UN-Number
DOT, ADR, ADN, IMDG, IATA Not applicable

14.2 UN proper shipping name
DOT, ADR, ADN, IMDG, IATA Not applicable

14.3 Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA Class Not applicable

14.4 Packing group
DOT, IMDG, IATA Not applicable

14.6 Special precautions for user
Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
UN “Model Regulation”: Not applicable.

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:
### Trade name: 275 Lead (Pb) Alloy Solder Wire

<table>
<thead>
<tr>
<th>Country</th>
<th>Inventory or List Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
</tr>
<tr>
<td>Korea</td>
<td>Korea Existing Chemicals List (ECL)</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
</tr>
<tr>
<td>USA</td>
<td>TSCA (Toxic Substances Control Act) TSCA Inventory of Chemical Substances</td>
</tr>
</tbody>
</table>

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

**SARA (Superfund Amendments and Reauthorization Act)**

<table>
<thead>
<tr>
<th>Section</th>
<th>355 (extremely hazardous substances):</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredient is listed.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section</th>
<th>313 (Specific toxic chemical listings):</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 7439-92-1</td>
<td>LEAD (Pb)</td>
</tr>
</tbody>
</table>

**Chemicals known to cause cancer:**

LEAD (Pb)

**Chemicals known to cause reproductive toxicity:**

LEAD (Pb)

**Carcinogenic categories**

**EPA (Environmental Protection Agency)**

<table>
<thead>
<tr>
<th>CAS: 7439-92-1</th>
<th>LEAD (Pb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2</td>
<td></td>
</tr>
</tbody>
</table>

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

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**

![Hazard pictograms](image)

**Signal word** Danger

**Hazard-determining components of labeling:**

- LEAD (Pb)
- Acid Modified Hydrogenated Rosin
- Organic acid

**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**

- P260: Do not breathe dust/fume/gas/mist/vapors/spray.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.

(Contd. of page 7)
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
Date of preparation / last revision 02/07/2017 / -

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
DOT: US Department of Transportation
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 5: Acute toxicity – Category 5
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 2: Carcinogenicity – Category 2
Repr. 1: Reproductive toxicity – Category 1
StOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

* Data compared to the previous version altered.