1 Identification

- 1.1 Product identifier
  - Trade name: Wieland GD1

- 1.2 Relevant identified uses of the substance or mixture and uses advised against
  - No further relevant information available.
  - Application of the substance / the preparation: Semi-finished product

- 1.3 Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    Wieland-Werke AG
    Graf-Arco-Straße 36
    89079 Ulm (Germany)
    Tel.: +49 (0) 731/944-0
    Fax: +49 (0) 731/944-2799
  - Information department:
    Department testing laboratories
    michael.ebner@wieland.de
  - 1.4 Emergency telephone number:
    Factory security offices
    Phone: +49 (0) 731-944-3706

2 Hazard(s) identification

- 2.1 Classification of the substance or mixture
  - Classification according to Regulation (EC) No 1272/2008 (CLP-Regulation):
    For products there is no obligation to classify acc. to CLP -Regulation.
    The product is not classified according to the CLP regulation.

- 2.2 Label elements
  - Labelling according to Regulation (EC) No 1272/2008: Void
  - Hazard pictograms: Void
  - Signal word: Void
  - Hazard-determining components of labeling: Void
  - Hazard statements: Void

- 2.3 Other hazards
  - Semi-finished products from copper or copper-alloys, as offered for sale as manufactured present no health hazard to man or for the aquatic enviroment.
  - Results of PBT and vPvB assessment
  - PBT: Not applicable to metals
  - vPvB: Not applicable to metals.

3 Composition/information on ingredients

- 3.2 Chemical characterization: Mixtures
  - Description: Metal in compact form.
  - UNS-number: -
  - Information:
    The classifications mentioned below reflect the respective pure substance and are for information only.
    Copper alloys are special preparations according to Regulation (EC) 1907/2006 (REACH Regulation).
    The classification of a pure substance is not applicable to its use as element of a copper alloy.

(Contd. on page 2)
Trade name: Wieland GD1

<table>
<thead>
<tr>
<th>CAS: 7440-50-8</th>
<th>copper</th>
<th>84-88%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-159-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: GL 5325000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 7440-31-5</td>
<td>tin</td>
<td>4.0-6.0%</td>
</tr>
<tr>
<td>EINECS: 231-141-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: XP 7320000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 7440-66-6</td>
<td>zinc</td>
<td>4.0-6.0%</td>
</tr>
<tr>
<td>EINECS: 231-175-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: ZG 8600000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 7439-92-1</td>
<td>lead</td>
<td>0-3.0%</td>
</tr>
<tr>
<td>EINECS: 231-100-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: OF 7525000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 First-aid measures

4.1 Description of first aid measures
- General information:
  No special measures required.
- After inhalation:
  Supply fresh air and to be sure call for a doctor.
  In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  After swallowing: Rinse out mouth and then drink plenty of water.

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 Fire-fighting measures

5.1 Extinguishing media
- Suitable extinguishing agents:
  Non-flammable. Use fire fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture
No further relevant information available.

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

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: Not required.

6.2 Environmental precautions: Not required

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

6.4 Reference to other sections:
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
7 Handling and storage

- **7.1 Precautions for safe handling:**
  No special measures required.
  Open and handle receptacle with care.
  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: No special requirements.
    - Further information about storage conditions: None.
  - **7.3 Specific end use(s):** No further relevant information available.

8 Exposure controls/personal protection

- **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.

<table>
<thead>
<tr>
<th>Constituent</th>
<th>PEL Long-term value</th>
<th>REL Long-term value</th>
<th>TLV Long-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>1</em> 0.1** mg/m³ as Cu</td>
<td><em>1</em> 0.1** mg/m³ as Cu</td>
<td><em>1</em> 0.2** mg/m³ as Cu</td>
</tr>
<tr>
<td></td>
<td>*dusts and mists**fume</td>
<td>*dusts and mists**fume</td>
<td>*dusts and mists**fume</td>
</tr>
<tr>
<td><strong>7440-50-8 copper</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7440-31-5 tin</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 mg/m³ metal</td>
<td>2 mg/m³ metal</td>
<td>2 mg/m³ metal</td>
</tr>
<tr>
<td><strong>7439-92-1 lead</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>0.05</em> mg/m³ <em>see 29 CFR 1910.1025</em></td>
<td><em>0.05</em> mg/m³ <em>8-hr TWA ;See PocketGuide App.C</em></td>
<td><em>0.05</em> mg/m³ <em>and inorganic compounds, as Pb; BEI</em></td>
</tr>
</tbody>
</table>
Trade name: Wieland GD1

### 44.0 Ingredients with biological limit values:

**7439-92-1 lead**

<table>
<thead>
<tr>
<th>BEI</th>
<th>30 µg/100 ml</th>
<th>Medium: blood</th>
<th>Time: not critical</th>
<th>Parameter: Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 µg/100 ml</td>
<td></td>
<td>Medium: blood</td>
<td>Time: not critical</td>
<td>Parameter: Lead (women of child bearing potential)</td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

- General protective and hygienic measures:
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing.
  - Wash hands before breaks and at the end of work.
  - Store protective clothing separately.

- Breathing equipment: Use a suitable industrial gas mask when workplace-limits are exceeded.

- Protection of hands:
  - Protective gloves are recommended, depending upon how the semis are further processed.

- Body protection:
  - Wear suitable protective clothing, depending upon how the semis are further processed.

### 9 Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

- **General Information**
  - **Form:** Solid
  - **Color:** copper red
  - **Odor:** Odorless
  - **Odor threshold:** Not determined.

- **Change in condition**
  - **Melting point/Melting range:** 875 °C (1607 °F) (Lit.)
  - **Boiling point/Boiling range:** Undetermined.

- **Flash point:** Not applicable.
Trade name: Wieland GD1

44.0 · Danger of explosion: Product does not present an explosion hazard.
· Density at 20 °C (68 °F): 8.7 g/cm³ (72.602 lbs/gal) (Lit.)
· Solubility in / Miscibility with Water: Not soluble.
· 9.2 Other information No further relevant information available.

10 Stability and reactivity

· 10.1 Reactivity: Not applicable.
· 10.2 Chemical stability: Not applicable.
· 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: Based on available data, the classification criteria are not met.
  · 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: Based on available data, the classification criteria are not met.
  · Additional toxicological information:
    When used and handled according to specifications, the article does not have any harmful effects to our experience and the information provided to us.
· Carcinogenic categories
  · IARC (International Agency for Research on Cancer)
    7439-92-1 lead 2B
  · NTP (National Toxicology Program)
    7439-92-1 lead R
  · OSHA-Ca (Occupational Safety & Health Administration)
    None of the ingredients is listed.

12 Ecological information

· 12.1 Toxicity
  · Aquatic toxicity: No further relevant information available.
· 12.2 Persistence and degradability: No further relevant information available.
· 12.3 Bioaccumulative potential: No further relevant information available.
· 12.4 Mobility in soil: No further relevant information available.
· Ecotoxicological effects:
· Remark: Toxic for fish
· Additional ecological information
· General notes:
  For semi-finished products in copper or copper-alloys no information regarding ecology is suitable, as it is not soluble in water.
  Toxic for aquatic organisms

(Contd. on page 6)
Trade name: Wieland GD1

12.5 Results of PBT and vPvB assessment
- PBT: Not applicable to metals.
- vPvB: Not applicable to metals.

12.6 Other adverse effects: No further relevant information available.

13 Disposal considerations
- 13.1 Waste treatment methods
  - Recommendation: Contact manufacturer for recycling information.

14 Transport information
- 14.1 UN-Number
  - DOT, ADR, ADN, IMDG, IATA: Void
- 14.2 UN proper shipping name
  - DOT, ADR, ADN, IMDG, IATA: Void
- 14.3 Transport hazard class(es)
  - DOT, ADR, ADN, IMDG, IATA: Void
  - Class: Void
- 14.4 Packing group
  - DOT, ADR, IMDG, IATA: Void
- 14.5 Environmental hazards:
  - Marine pollutant: No
- 14.6 Special precautions for user: Not applicable.
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

15 Regulatory information
- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
    - Section 355 (extremely hazardous substances):
      None of the ingredients is listed.
    - Section 313 (Specific toxic chemical listings):
      7440-50-8 copper
      7440-66-6 zinc
      7439-92-1 lead
    - TSCA (Toxic Substances Control Act):
      All ingredients are listed.
      - Proposition 65
        - Chemicals known to cause cancer:
          7439-92-1 lead
        - Chemicals known to cause reproductive toxicity for females:
          7439-92-1 lead

(Contd. on page 7)
Trade name: Wieland GD1

<table>
<thead>
<tr>
<th>Chemicals known to cause reproductive toxicity for males:</th>
</tr>
</thead>
<tbody>
<tr>
<td>7439-92-1 lead</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemicals known to cause developmental toxicity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>7439-92-1 lead</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cancerogenity categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA (Environmental Protection Agency)</td>
</tr>
<tr>
<td>7440-50-8 copper D</td>
</tr>
<tr>
<td>7440-66-6 zinc D, I, II</td>
</tr>
<tr>
<td>7439-92-1 lead B2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TLV (Threshold Limit Value established by ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7439-92-1 lead A3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NIOSH-Ca (National Institute for Occupational Safety and Health)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients is listed.</td>
</tr>
</tbody>
</table>

| Chemical safety assessment void.                            |

16 Other information

- This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific article features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Department testing laboratories

- Contact:
  - Dr. Michael Ebner
  - Phone (+)49 (0)731/944-3706

- Date of preparation / last revision 08/24/2017 / 7

- * Data compared to the previous version altered.