1 Identification

1.1 Product identifier
- Trade name: Wieland GD3

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
- 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):
  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 environment.
- 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 GD3

- Components:

<table>
<thead>
<tr>
<th>CAS: 7440-50-8</th>
<th>copper</th>
<th>83.0-87.0%</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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 7440-31-5</th>
<th>tin</th>
<th>4.0-6.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-141-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: XP 7320000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 7439-92-1</th>
<th>lead</th>
<th>4.0-6.0%</th>
</tr>
</thead>
<tbody>
<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>

<table>
<thead>
<tr>
<th>CAS: 7440-02-0</th>
<th>nickel</th>
<th>0-2.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-111-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: ZG 8600000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 7440-66-6</th>
<th>zinc</th>
<th>4.0-6.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-175-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: ZG 8600000</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.
  First Aid information refer to any dust which is generated.
- 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**
  - Additional information about design of technical systems: No further data; see item 7.
  - Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Component</th>
<th>PEL</th>
<th>REL</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-50-8 copper</td>
<td>Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume</td>
<td>Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume</td>
<td>Long-term value: 1* 0.2** mg/m³ *dusts and mists; **fume; as Cu</td>
</tr>
<tr>
<td>7440-31-5 tin</td>
<td>Long-term value: 2 mg/m³ metal</td>
<td>Long-term value: 2 mg/m³</td>
<td>Long-term value: 2 mg/m³ metal</td>
</tr>
<tr>
<td>7439-92-1 lead</td>
<td>Long-term value: 0.05* mg/m³ *see 29 CFR 1910.1025</td>
<td>Long-term value: 0.05* mg/m³ *8-hr TWA; See PocketGuide App.C</td>
<td>Long-term value: 0.05* mg/m³ *and inorganic compounds, as Pb; BEI</td>
</tr>
<tr>
<td>7440-02-0 nickel</td>
<td>Long-term value: 1 mg/m³</td>
<td>Long-term value: 0.015 mg/m³ as Ni; See Pocket Guide App. A</td>
<td>Long-term value: 1.5* mg/m³ elemental, *inhalable fraction</td>
</tr>
</tbody>
</table>

*(Contd. on page 4)*
Ingredients with biological limit values:

**7439-92-1 lead**

<table>
<thead>
<tr>
<th>BEI</th>
<th>30 µg/100 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium:</td>
<td>blood</td>
</tr>
<tr>
<td>Time:</td>
<td>not critical</td>
</tr>
<tr>
<td>Parameter:</td>
<td>Lead</td>
</tr>
</tbody>
</table>

| 10 µg/100 ml |
| Medium: | blood |
| Time: | not critical |
| Parameter: | Lead (women of child bearing potential) |

**1314-13-2 zinc oxide**

<table>
<thead>
<tr>
<th>PEL</th>
<th>Long-term value: 15* 5** mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>*total dust **respirable fraction and fume</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REL</th>
<th>Short-term value: 10** mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term value: 5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Ceiling limit value: 15* mg/m³</td>
<td></td>
</tr>
<tr>
<td>*dust only **fume</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TLV</th>
<th>Short-term value: 10* mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term value: 2* mg/m³</td>
<td></td>
</tr>
<tr>
<td>*as respirable fraction</td>
<td></td>
</tr>
</tbody>
</table>

Additional information: The lists that were valid during the creation were used as basis.

8.2 Exposure controls

- **Personal protective equipment:**
- **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.
  - Do not inhale dust / smoke / mist.
- **Breathing equipment:** Use a suitable industrial gas mask when work-place-limits are exceeded.
- **Protection of hands:**
  - Protective gloves are recommended, depending upon how the semis are further processed.
- **Eye protection:**
  - Protective goggles 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**
- **Appearance:**
  - Form: Solid
  - Color: copper red
  - Odor: Odorless
  - Odor threshold: Not determined.

- **Change in condition**
  - Melting point/Melting range: 860-1030 °C (1580-1886 °F) (Lit.)
  - Boiling point/Boiling range: Undetermined.

- **Flash point:** Not applicable.
10 Stability and reactivity

- **10.1 Reactivity:** Not applicable.
- **10.2 Chemical stability:** Not applicable.
- **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
    - 7440-02-0 nickel 2B
  - NTP (National Toxicology Program)
    - 7439-92-1 lead R
    - 7440-02-0 nickel 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
4.0 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

- 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

- 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
    7440-02-0 nickel

  - TSCA (Toxic Substances Control Act):
    All ingredients are listed.
 Trade name: Wieland GD3

- Proposition 65
  - Chemicals known to cause cancer:
    7439-92-1 lead
    7440-02-0 nickel
  - Chemicals known to cause reproductive toxicity for females:
    7439-92-1 lead
  - Chemicals known to cause reproductive toxicity for males:
    7439-92-1 lead
  - Chemicals known to cause developmental toxicity:
    7439-92-1 lead

- Cancerogenity categories
  - EPA (Environmental Protection Agency)
    7440-50-8 copper D
    7440-66-6 zinc D, I, II
    7439-92-1 lead B2
  - TLV (Threshold Limit Value established by ACGIH)
    7439-92-1 lead A3
    7440-02-0 nickel A5
  - NIOSH-Ca (National Institute for Occupational Safety and Health)
    7440-02-0 nickel

- 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 08/23/2017 / 7
- * Data compared to the previous version altered.