1 Identification

- **1.1 Product identifier**
  - Trade name: **Wieland G91**

- **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 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.
Trade name: **Wieland G91**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS: 7440-50-8</th>
<th>EINECS: 231-159-6</th>
<th>RTECS: GL 5325000</th>
<th>copper</th>
<th>83.5-87.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 7440-31-5</td>
<td>EINECS: 231-141-8</td>
<td>RTECS: XP 7320000</td>
<td>tin</td>
<td>10.5-12.5%</td>
<td></td>
</tr>
<tr>
<td>CAS: 7439-92-1</td>
<td>EINECS: 231-100-4</td>
<td>RTECS: OF 7525000</td>
<td>lead</td>
<td>0.7-2.5%</td>
<td></td>
</tr>
<tr>
<td>CAS: 7440-02-0</td>
<td>EINECS: 231-111-4</td>
<td></td>
<td>nickel</td>
<td>0-2.0%</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.
  - See Section 13 for disposal information.
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

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

- **8.1 Control parameters**

<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>
Trade name: Wieland G91

- Ingredients with biological limit values:

<table>
<thead>
<tr>
<th>Substance</th>
<th>BEI Limit</th>
<th>Medium</th>
<th>Time</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>7439-92-1 lead</td>
<td>30 µg/100 ml</td>
<td>blood</td>
<td>not critical</td>
<td>Lead</td>
</tr>
<tr>
<td></td>
<td>10 µg/100 ml</td>
<td>blood</td>
<td>not critical</td>
<td>Lead (women of child bearing potential)</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: 830-1000 °C (1526-1832 °F) (Lit.)
    - Boiling point/Boiling range: Undetermined.
  - Flash point: Not applicable.
  - Danger of explosion: Product does not present an explosion hazard.
  - Density at 20 °C (68 °F): 9 g/cm³ (75.105 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.
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

<table>
<thead>
<tr>
<th>IARC (International Agency for Research on Cancer)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7439-92-1 lead</td>
<td>2B</td>
</tr>
<tr>
<td>7440-02-0 nickel</td>
<td>2B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NTP (National Toxicology Program)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7439-92-1 lead</td>
<td>R</td>
</tr>
<tr>
<td>7440-02-0 nickel</td>
<td>R</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OSHA-Ca (Occupational Safety &amp; Health Administration)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients is listed.</td>
<td></td>
</tr>
</tbody>
</table>

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.
- 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.
- 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
      - 7439-92-1 lead
      - 7440-02-0 nickel
    - **TSCA (Toxic Substances Control Act):**
      - All ingredients are listed.
    - **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
        - 7439-92-1 lead: B2
      - TLV (Threshold Limit Value established by ACGIH)
        - 7439-92-1 lead: A3
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 / 6
- * Data compared to the previous version altered.