## 1 Identification

- **1.1 Product identifier**
  
  - Trade name: **Wieland-GB2**

- **1.2 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:**
    
    Wieland-Werke AG
    
    Graf-Arco-Str. 36
    
    89079 Ulm

  - **Information department:**
    
    Associations & Management Systems
    
    stefan.priggemeyer@wieland.com

- **1.4 Telephone number:** +49 731 944 2794 (Monday - Friday from 9 a.m. to 4 p.m.)

## 2 Hazard(s) identification

- **2.1 Classification of the substance or mixture:**
  
  - **Classification according to Regulation (EC) No 1272/2008 (CLP-Regulation):**
    
    - GHS08 Health hazard
      
      Carc. 2  H351 Suspected of causing cancer. Route of exposure: Inhalation.
      
      Repr. 1A  H360 May damage fertility or the unborn child.
      
      STOT RE 1  H372 Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

    - GHS07 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.

  - **Hazard pictograms:** GHS07, GHS08

  - **Signal word:** Danger

  - **Hazard statements:**
    
    - H317 May cause an allergic skin reaction.
    
    - H351 Suspected of causing cancer. Route of exposure: Inhalation.
    
    - H360 May damage fertility or the unborn child.
    
    - H372 Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

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

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Trade name: Wieland-GB2

P308+P313 IF exposed or concerned: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
· 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 massive form.
· Material Code (CEN/TS 13388): CuSn5Zn5Pb5-C
· Material number (CEN/TS 13388): CC491K
· UNS-number: -
· Information:
The classifications listed below reflect the classification of the relevant alloying constituents and are only for information. Mentioned percentages are references values.

Alloy components:

<table>
<thead>
<tr>
<th>CAS</th>
<th>EINECS: 231-159-6</th>
<th>RTECS: GL 5325000</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-50-8</td>
<td>83.0-87.0% copper</td>
<td></td>
</tr>
<tr>
<td>CAS</td>
<td>EINECS: 231-141-8</td>
<td>RTECS: XP 7320000</td>
</tr>
<tr>
<td>7440-31-5</td>
<td>4.0-6.0% tin</td>
<td></td>
</tr>
<tr>
<td>CAS</td>
<td>EINECS: 231-100-4</td>
<td>RTECS: OF 7525000</td>
</tr>
<tr>
<td>7439-92-1</td>
<td>4.0-6.0% lead</td>
<td></td>
</tr>
<tr>
<td>CAS</td>
<td>EINECS: 231-175-3</td>
<td>RTECS: ZG 8600000</td>
</tr>
<tr>
<td>7440-66-6</td>
<td>4.0-6.0% zinc</td>
<td></td>
</tr>
<tr>
<td>CAS</td>
<td>EINECS: 231-111-4</td>
<td></td>
</tr>
<tr>
<td>7440-02-0</td>
<td>0-2.0% nickel</td>
<td></td>
</tr>
</tbody>
</table>

(Contd. on page 3)
· **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:**
  Collect the material and if necessary dispose it as waste according to section 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.
- **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: Store in dry conditions.
### 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>Ingredient</th>
<th>PEL Long-term value: 1* 0.1** mg/m³ as Cu</th>
<th>REL Long-term value: 1* 0.1** mg/m³ as Cu</th>
<th>TLV Long-term value: 1* 0.2** mg/m³ dusts and mists; **fume; as Cu</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-50-8 copper</td>
<td>*dusts and mists; **fume</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>PEL Long-term value: 2 mg/m³ metal</th>
<th>REL Long-term value: 2 mg/m³</th>
<th>TLV Long-term value: 2* mg/m³ metal, *inh. fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-31-5 tin</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>PEL Long-term value: 0.05* mg/m³</th>
<th>REL Long-term value: 0.05* mg/m³</th>
<th>TLV Long-term value: 0.05* mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>7439-92-1 lead</td>
<td>*see 29 CFR 1910.1025</td>
<td>*8-hr TWA;See PocketGuide App.C</td>
<td>*and inorganic compds., as Pb; BEI, A3</td>
</tr>
<tr>
<td>7440-02-0 nickel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>PEL Long-term value: 1 mg/m³</th>
<th>REL Long-term value: 0.015 mg/m³ as Ni</th>
<th>TLV Long-term value: 1.5* mg/m³ elemental, *inh. fraction, A5, BEI</th>
</tr>
</thead>
</table>

#### Ingredients with biological limit values:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>BEI 200 µg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium: blood</td>
<td>Time: not critical</td>
</tr>
<tr>
<td>Parameter: Lead</td>
<td></td>
</tr>
</tbody>
</table>

(Contd. on page 5)
Trade name: Wieland-GB2

7440-02-0 nickel
BEI 5 μg/L
   Medium: urine
   Time: post-shift at end of workweek
   Parameter: Nickel (background)

30 μg/L
   Medium: urine
   Time: post-shift at end of workweek
   Parameter: Nickel (background)

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.
   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 (material of gloves: neoprene or leather).
   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: Undetermined.
      Boiling point/Boiling range: 860-1030 °C (1580-1886 °F)
      Flash point: Not applicable.
      Danger of explosion: Product does not present an explosion hazard.
      Density at 20 °C (68 °F): 8.7 g/cm³ (72.6015 lbs/gal)
      Solubility in / Miscibility with water at 20 °C (68 °F): Not soluble.
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

- **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:**
  May cause an allergic skin reaction.
- **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 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.
· 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: Must not be disposed of together with household garbage. Contact manufacturer for recycling information.

14 Transport information

· 14.1 UN-Number
  DOT, ADR, IMDG, IATA Void
· 14.2 UN proper shipping name
  DOT, ADR, IMDG, IATA Void
· 14.3 Transport hazard class(es)
  DOT, ADR, ADN, IMDG, IATA
    Class Void
· 14.4 Packing group
  DOT, ADR, IMDG, IATA Void
· 14.5 Environmental hazards: 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: 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  
      7440-66-6 zinc  
      7440-02-0 nickel
  - **TSCA (Toxic Substances Control Act):**
    All components have the value ACTIVE.
  - **Hazardous Air Pollutants:**
    7439-92-1 lead
  - **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  
      7440-66-6 zinc: D, I, II
  - **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.

(Contd. on page 9)
Trade name: Wieland-GB2

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: Associations & Management Systems
· Contact:
  Dr. Stefan Priggemeyer
  Email: stefan.priggemeyer@wieland.com
· * Data compared to the previous version altered.