1 Identification

- **1.1 Product identifier**
  - Trade name: **Wieland S31**

- **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):
    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)
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
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.

7440-50-8 copper

<table>
<thead>
<tr>
<th></th>
<th>PEL</th>
<th>REL</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Long-term value: 1* 0.1** mg/m³ as Cu</td>
<td>Long-term value: 1* 0.1** mg/m³ as Cu</td>
<td>Long-term value: 1* 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>
</tbody>
</table>

7440-21-3 silicon

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

1314-13-2 zinc oxide

<table>
<thead>
<tr>
<th></th>
<th>PEL</th>
<th>REL</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Long-term value: 15* 5** mg/m³ total dust</td>
<td>Short-term value: 10** mg/m³</td>
<td>Short-term value: 10* mg/m³</td>
</tr>
<tr>
<td></td>
<td>**respirable fraction and fume</td>
<td>Long-term value: 5 mg/m³</td>
<td>Long-term value: 2* mg/m³</td>
</tr>
<tr>
<td></td>
<td>Ceiling limit value: 15* mg/m³ dust only</td>
<td>**fume</td>
<td>*as respirable fraction</td>
</tr>
</tbody>
</table>

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
**Trade name:** Wieland S31

- 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: metallic-yellow
  - Odor: Odorless
  - Odor threshold: Not determined.
  - Change in condition
    - Melting point/Melting range: 880-915 °C (1616-1679 °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): 8.41 g/cm³ (70.181 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.
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: Very 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.
    - Very 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
  - Class: Void
- **14.4 Packing group**
  - DOT, ADR, IMDG, IATA: Void
- **14.5 Environmental hazards**
  - Marine pollutant: No
Safety Data Sheet

Trade name: Wieland S31

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

   · 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

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

   · None of the ingredients is listed.

· 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 / 6
· * Data compared to the previous version altered.