1 Identification

- 1.1 Product identifier
  - Trade name: Wieland S23

- 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: C68800
  - 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 S23

<table>
<thead>
<tr>
<th>CAS: 7440-50-8</th>
<th>Components:</th>
<th>RTECS: GL 5325000</th>
<th>copper</th>
<th>72.0–75.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-159-6</td>
<td></td>
<td>RTECS: BD 0330000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 7429-90-5</td>
<td>aluminium</td>
<td>EINECS: 231-072-3</td>
<td>3.0–3.8%</td>
<td></td>
</tr>
<tr>
<td>RTECS: BD 0330000</td>
<td></td>
<td>EINECS: 231-158-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 7440-48-4</td>
<td>zinc</td>
<td>RTECS: GF 8750000</td>
<td>balance%</td>
<td></td>
</tr>
<tr>
<td>EINECS: 231-157-5</td>
<td></td>
<td>EINECS: 231-175-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: ZG 8600000</td>
<td></td>
<td>EINECS: 231-072-3</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:
· Respir. Sens. 1; H334; Carc. 2; H351; Skin Sens. 1; H317; Aquatic Chronic 4, H413
· 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 of the collected material according to regulations.
· 6.4 Reference to other sections:
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
Trade name: Wieland S23

See Section 13 for disposal information.

7 Handling and storage

· 7.1 Precautions for safe handling: No special measures required.
· 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

· Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Substance</th>
<th>PEL Long-term value:</th>
<th>REL Long-term value:</th>
<th>TLV Long-term value:</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-50-8 copper</td>
<td>1* 0.1** mg/m³ as Cu *dusts and mists **fume</td>
<td>1* 0.1** mg/m³ as Cu *dusts and mists **fume</td>
<td>1* 0.2** mg/m³ *dusts and mists; **fume; as Cu</td>
</tr>
<tr>
<td>7429-90-5 aluminium</td>
<td>15* 5** mg/m³ *Total dust; **Respirable fraction</td>
<td>10* 5** mg/m³ as Al*Total dust**Respirable/pyro powd./welding f.</td>
<td>1* mg/m³ as Al; *as respirable fraction</td>
</tr>
<tr>
<td>1314-13-2 zinc oxide</td>
<td>15* 5** mg/m³ *total dust **respirable fraction and fume</td>
<td>10** mg/m³</td>
<td>5 mg/m³ Ceiling limit value: 15* mg/m³ *dust only **fume</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10* mg/m³ Long-term value: 2* mg/m³ *as respirable fraction</td>
</tr>
</tbody>
</table>

· Additional Occupational Exposure Limit Values for possible hazards during processing:

- 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:
· Wash hands before breaks and at the end of work.
· 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.
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.
  - Melting point/Melting range: 950-965 °C (1742-1769 °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): 8.11 g/cm³ (67.678 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.
  - LD/LC50 values that are relevant for classification:

    7440-48-4 cobalt
    Oral LD50 [6170 mg/kg (rat)]

  - 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.
### 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.

#### Ecotoxicity 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

#### 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

<table>
<thead>
<tr>
<th>14.1 UN-Number</th>
<th>DOT, ADR, ADN, IMDG, IATA</th>
<th>Void</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 UN proper shipping name</td>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Class</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>DOT, ADR, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>14.5 Environmental hazards:</td>
<td>Marine pollutant:</td>
<td>No</td>
</tr>
<tr>
<td>14.6 Special precautions for user:</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>
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):
    All ingredients are listed.
  - TSCA (Toxic Substances Control Act):
    All ingredients are listed.
  - Proposition 65
    - Chemicals known to cause cancer:
      7440-48-4 cobalt
    - Chemicals known to cause reproductive toxicity for females:
      None of the ingredients is listed.
    - Chemicals known to cause reproductive toxicity for males:
      None of the ingredients is listed.
    - Chemicals known to cause developmental toxicity:
      None of the ingredients is listed.
  - Cancerogenity categories
    - EPA (Environmental Protection Agency)
      7440-50-8 copper D
      7440-66-6 zinc D, I, II
    - TLV (Threshold Limit Value established by ACGIH)
      7429-90-5 aluminium A4
      7440-48-4 cobalt 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.