1 Identification

- **1.1 Product identifier**
  - Trade name: **Wieland S33**

- **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-Straße 36
    89079 Ulm (Germany)
    Tel.: +49 (0)731/944-0
    Fax: +49 (0)731/944-2799

- **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 S33

<table>
<thead>
<tr>
<th>CAS:</th>
<th>EINECS:</th>
<th>RTECS:</th>
<th>Components</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-50-8</td>
<td>231-159-6</td>
<td>GL 5325000</td>
<td>copper</td>
<td>66.0-70.0%</td>
</tr>
<tr>
<td>7440-66-6</td>
<td>231-175-3</td>
<td>ZG 8600000</td>
<td>zinc</td>
<td>balance%</td>
</tr>
<tr>
<td>7440-21-3</td>
<td>231-130-8</td>
<td>VW 0400000</td>
<td>silicon</td>
<td>0.7-1.3%</td>
</tr>
<tr>
<td>7439-92-1</td>
<td>231-100-4</td>
<td>OF 7525000</td>
<td>lead</td>
<td>0-0.8%</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
- 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.

<table>
<thead>
<tr>
<th>Chemical</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</td>
<td>1* 0.1** mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>as Cu dusts and mists; **fume</td>
<td>as Cu dusts and mists; **fume</td>
<td></td>
</tr>
<tr>
<td>7440-21-3 silicon</td>
<td>15* 5** mg/m³</td>
<td>10* 5** mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*total dust; **respirable fraction</td>
<td>*total dust; **respirable fraction</td>
<td></td>
</tr>
<tr>
<td>1314-13-2 zinc oxide</td>
<td>15* 5** mg/m³</td>
<td>15* 5** mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*total dust; **respirable fraction and fume</td>
<td>*total dust; **respirable fraction and fume</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short-term value: 10* mg/m³</td>
<td>Long-term value: 5 mg/m³</td>
<td>Ceiling limit value: 15* mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*dust only; **fume</td>
</tr>
<tr>
<td></td>
<td>Short-term value: 10* mg/m³</td>
<td>Long-term value: 2* mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></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 S33

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): 8.38 g/cm³ (69.931 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.
Trade name: Wieland S33

- 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
  - NTP (National Toxicology Program)
    7439-92-1 lead 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: Very toxic for fish
- 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
    - 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
    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 / 5
- * Data compared to the previous version altered.