1 Identification

· 1.1 Product identifier
  · Trade name: Wieland SW1 (ECOBRASS)

· 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: C69300
  · 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 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.
7 Handling and storage

- **7.1 Precautions for safe handling:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
  - **Storage:** No special measures required.
  - Requirements to be met by storerooms and receptacles: None.
  - 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:
    - 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></th>
<th>7440-50-8 copper</th>
<th></th>
<th>7440-21-3 silicon</th>
<th></th>
<th>1314-13-2 zinc oxide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Long-term value: 1* 0.1** mg/m³</td>
<td></td>
<td>Long-term value: 15* 5** mg/m³</td>
<td></td>
<td>Long-term value: 15* 5** mg/m³</td>
</tr>
<tr>
<td></td>
<td>as Cu *dusts and mists **fume</td>
<td></td>
<td>as Cu *total dust **respirable fraction</td>
<td></td>
<td>as Cu *total dust **respirable fraction</td>
</tr>
<tr>
<td></td>
<td>REL Long-term value: 10* 5** mg/m³</td>
<td></td>
<td>REL Short-term value: 10** mg/m³</td>
<td></td>
<td>REL Short-term value: 10** mg/m³</td>
</tr>
<tr>
<td></td>
<td>as Cu *dusts and mists **fume</td>
<td></td>
<td>Ceiling limit value: 5 mg/m³</td>
<td></td>
<td>Ceiling limit value: 5 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TLV Long-term value: 10* 2** mg/m³</td>
<td></td>
<td>Long-term value: 2* mg/m³</td>
<td></td>
<td>Long-term value: 2* mg/m³</td>
</tr>
<tr>
<td></td>
<td>as Cu *dusts and mists **fume</td>
<td></td>
<td>*as respirable fraction</td>
<td></td>
<td>*as respirable fraction</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>7440-50-8 copper</th>
<th></th>
<th>7440-21-3 silicon</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
<td>Long-term value: 15* 5** mg/m³</td>
<td></td>
<td>Long-term value: 15* 5** mg/m³</td>
</tr>
<tr>
<td>REL</td>
<td>Short-term value: 10** mg/m³</td>
<td></td>
<td>Short-term value: 10** mg/m³</td>
</tr>
<tr>
<td></td>
<td>Ceiling limit value: 5 mg/m³</td>
<td></td>
<td>Ceiling limit value: 5 mg/m³</td>
</tr>
<tr>
<td></td>
<td>*dust only **fume</td>
<td></td>
<td>*as respirable fraction</td>
</tr>
<tr>
<td>TLV</td>
<td>Short-term value: 10* mg/m³</td>
<td></td>
<td>Short-term value: 10* mg/m³</td>
</tr>
<tr>
<td></td>
<td>Long-term value: 2* mg/m³</td>
<td></td>
<td>Long-term value: 2* mg/m³</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:
    - 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.
44.0 · 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: 860-925 °C (1580-1697 °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): 8.25 g/cm³ (68.846 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.
  · 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.

(Contd. on page 5)
### 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: Toxic for fish
  - Additional ecological information
  - General note:
    - 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

- **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.
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

- TSCA (Toxic Substances Control Act):
  7440-50-8 copper
  7440-66-6 zinc
  7440-21-3 silicon

- Proposition 65
  None of the ingredients is listed.

- Chemicals known to cause cancer:
  None of the ingredients is listed.

- 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)
  None of the ingredients is listed.

- 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 / 7
- * Data compared to the previous version altered.