1 Identification

· 1.1 Product identifier
  · Trade name: Wieland SX1

· 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).
  · Components:
    Mentioned percentages are references values.
Trade name: Wieland SX1

<table>
<thead>
<tr>
<th>CAS: 7440-50-8</th>
<th>copper</th>
<th>64%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-159-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: GL 5325000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 7439-95-5</td>
<td>manganese</td>
<td>2%</td>
</tr>
<tr>
<td>EINECS: 231-105-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: OO 9275000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 7429-90-5</td>
<td>aluminium</td>
<td>1%</td>
</tr>
<tr>
<td>EINECS: 231-072-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: BD 0330000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 7440-21-3</td>
<td>silicon</td>
<td>1%</td>
</tr>
<tr>
<td>EINECS: 231-130-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: VW 0400000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 7440-02-0</td>
<td>nickel</td>
<td>1%</td>
</tr>
<tr>
<td>EINECS: 231-111-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 7440-66-6</td>
<td>zinc</td>
<td>balance%</td>
</tr>
<tr>
<td>EINECS: 231-175-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: ZG 8600000</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:**
  - 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.
Trade name: Wieland SX1

- **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.
  - 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

<table>
<thead>
<tr>
<th>Component</th>
<th>PEL</th>
<th>REL</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-50-8 copper</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><strong>dusts and mists</strong></td>
<td><strong>dusts and mists</strong></td>
<td><strong>fume; as Cu</strong></td>
</tr>
<tr>
<td>7439-96-5 manganese</td>
<td>Ceiling limit value: 5 mg/m³ as Mn</td>
<td>Short-term value: 3 mg/m³</td>
<td>Long-term value: 1 mg/m³ fume, as Mn</td>
</tr>
<tr>
<td></td>
<td>REL Long-term value: 1 mg/m³ as Mn</td>
<td>REL Long-term value: 1 mg/m³ as Mn</td>
<td>REL Long-term value: 0.02* 0.1* mg/m³ as Mn; **respirable **inhalable fraction</td>
</tr>
<tr>
<td>7429-90-5 aluminium</td>
<td>PEL Long-term value: 15*; 5** mg/m³ Total dust; **Respirable fraction</td>
<td>REL Long-term value: 10* 5** mg/m³ as Al**Respirable/pyro powd./welding f.</td>
<td>REL Long-term value: 1* mg/m³ as Al; **as respirable fraction</td>
</tr>
<tr>
<td></td>
<td>REL Long-term value: 10* 5** mg/m³ as Al**Respirable/pyro powd./welding f.</td>
<td>REL Long-term value: 10* 5** mg/m³ as Al**Respirable/pyro powd./welding f.</td>
<td>REL Long-term value: 1* mg/m³ as Al; **as respirable fraction</td>
</tr>
<tr>
<td>7440-21-3 silicon</td>
<td>PEL Long-term value: 15* 5** mg/m³ total dust **respirable fraction</td>
<td>REL Long-term value: 10* 5** mg/m³ total dust **respirable fraction</td>
<td>REL Long-term value: 10* 5** mg/m³ total dust **respirable fraction</td>
</tr>
<tr>
<td></td>
<td>TLV TLV withdrawn</td>
<td>TLV TLV withdrawn</td>
<td>TLV TLV withdrawn</td>
</tr>
</tbody>
</table>

(Contd. on page 3)

(Contd. of page 2)
Trade name: Wieland SX1

<table>
<thead>
<tr>
<th>7440-02-0 nickel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PEL</strong> Long-term value: 1 mg/m³</td>
</tr>
<tr>
<td><strong>REL</strong> Long-term value: 0.015 mg/m³ as Ni; See Pocket Guide App. A</td>
</tr>
<tr>
<td><strong>TLV</strong> Long-term value: 1.5 mg/m³ elemental, <em>inhalable fraction</em></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>1314-13-2 zinc oxide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PEL</strong> Long-term value: 15* 5** mg/m³ *total dust **respirable fraction and fume</td>
</tr>
<tr>
<td><strong>REL</strong> Short-term value: 10** mg/m³ Long-term value: 5 mg/m³ Ceiling limit value: 15* mg/m³ *dust only **fume</td>
</tr>
<tr>
<td><strong>TLV</strong> Short-term value: 10* mg/m³ Long-term value: 2* mg/m³ *as respirable fraction</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:
    - Keep away from foodstuffs, beverages and feed.
    - Immediately remove all soiled and contaminated clothing.
    - 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.
  - 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: 845-885 °C (1553-1625 °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): 8.31 g/cm³ (69.347 lbs/g al) (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.
10.3 Thermal decomposition / conditions to be avoided:
   No decomposition if used according to specifications.
10.4 Possibility of hazardous reactions: No dangerous reactions known.
10.5 Conditions to avoid: No further relevant information available.
10.6 Incompatible materials: No further relevant information available.
10.7 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.
   Carcinogenic categories
   - IARC (International Agency for Research on Cancer)
     7440-02-0 nickel 2B
   - NTP (National Toxicology Program)
     7440-02-0 nickel 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
   - 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.
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

- **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
    - 7439-96-5 manganese
    - 7429-90-5 aluminium
    - 7440-02-0 nickel
  - TSCA (Toxic Substances Control Act):
    - All ingredients are listed.
  - Proposition 65
  - Chemicals known to cause cancer:
    - 7440-02-0 nickel
  - 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.
### Trade name: Wieland SX1

- **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
    - 7439-96-5 manganese
      - D

  - **TLV (Threshold Limit Value established by ACGIH)**
    - 7429-90-5 aluminium
      - A4
    - 7440-02-0 nickel
      - A5

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
  - 7440-02-0 nickel

- **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.