1 Identification

1.1 Product identifier
- Trade name: Wieland G25

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
- 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.
Trade name: Wieland G25

- Components:

<table>
<thead>
<tr>
<th>CAS</th>
<th>EINECS</th>
<th>RTECS</th>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-50-8</td>
<td>231-159-6</td>
<td>GL 5325000</td>
<td>copper</td>
<td>60.0-67.0%</td>
</tr>
<tr>
<td>7429-90-5</td>
<td>231-072-3</td>
<td>BD 0330000</td>
<td>aluminium</td>
<td>3.0-7.0%</td>
</tr>
<tr>
<td>7439-96-5</td>
<td>231-105-1</td>
<td>OO 9275000</td>
<td>manganese</td>
<td>2.5-5.0%</td>
</tr>
<tr>
<td>7440-02-0</td>
<td>231-111-4</td>
<td></td>
<td>nickel</td>
<td>0-3.0%</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>7439-92-1</td>
<td>231-100-4</td>
<td>OF 7525000</td>
<td>iron</td>
<td>1.5-4.0%</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.
  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></th>
<th>7440-50-8 copper</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
<td>Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume</td>
</tr>
<tr>
<td>REL</td>
<td>Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume</td>
</tr>
<tr>
<td>TLV</td>
<td>Long-term value: 1* 0.2** mg/m³ *dusts and mists; **fume; as Cu</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>7429-90-5 aluminium</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
<td>Long-term value: 15*; 5** mg/m³ *Total dust; ** Respirable fraction</td>
</tr>
<tr>
<td>REL</td>
<td>Long-term value: 10* 5** mg/m³ as Al*Total dust**Respirable/pyro powd./welding f.</td>
</tr>
<tr>
<td>TLV</td>
<td>Long-term value: 1* mg/m³ as Al; *as respirable fraction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>7439-96-5 manganese</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
<td>Ceiling limit value: 5 mg/m³ as Mn</td>
</tr>
<tr>
<td>REL</td>
<td>Short-term value: 3 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Long-term value: 1 mg/m³ fume, as Mn</td>
</tr>
<tr>
<td>TLV</td>
<td>Long-term value: 0.02* 0.1* mg/m³ as Mn; *respirable **inhalable fraction</td>
</tr>
</tbody>
</table>
Trade name: Wieland G25

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

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

<table>
<thead>
<tr>
<th>1314-13-2 zinc oxide</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PEL</strong> Long-term value: 15* 5** mg/m³ total dust **respirable fraction and fume</td>
<td></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>
<td></td>
</tr>
<tr>
<td><strong>TLV</strong> Short-term value: 10* mg/m³ Long-term value: 2* mg/m³ *as respirable fraction</td>
<td></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 workplace-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: copper red
    - Odor: Odorless
    - Odor threshold: Not determined.
  - Change in condition
    - Melting point/Melting range: 930-960 °C (1706-1760 °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): 8.08 g/cm³ (67.428 lbs/gal) (Lit.)
  - Solubility in / Miscibility with
    - Water: Not soluble.

(Contd. on page 5)
10 Stability and reactivity

10.1 Reactivity: Not applicable.
10.2 Chemical stability: Not applicable.
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.

Carcinogenic categories

- IARC (International Agency for Research on Cancer)
  - 7440-02-0 nickel 2B
  - 7439-92-1 lead 2B
- NTP (National Toxicology Program)
  - 7440-02-0 nickel R
  - 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.
- Ecotoxic 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.
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
    7429-90-5 aluminium
    7439-96-5 manganese
    7440-02-0 nickel
    7439-92-1 lead
- TSCA (Toxic Substances Control Act):
  All ingredients are listed.
- Proposition 65
  - Chemicals known to cause cancer:
    7440-02-0 nickel
    7439-92-1 lead
  - Chemicals known to cause reproductive toxicity for females:
    7439-92-1 lead

(Contd. of page 5)
### Trade name: Wieland G25

- **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
- 7439-96-5 manganese: D
- 7439-92-1 lead: B2

**TLV (Threshold Limit Value established by ACGIH)**

- 7429-90-5 aluminium: A4
- 7440-02-0 nickel: A5
- 7439-92-1 lead: A3

**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:** 08/23/2017 / 7
- **Data compared to the previous version altered.**