1 Identification

1.1 Product identifier
- Trade name: Wieland GC4

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).
  The classification of a pure substance is not applicable to its use as element of a copper alloy.
Trade name: Wieland GC4

- Components:

<table>
<thead>
<tr>
<th>CAS: 7440-50-8</th>
<th>RTECS: GL 5325000</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-159-6</td>
<td>copper (81.0-86.0%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 7439-92-1</th>
<th>RTECS: OF 7525000</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-100-4</td>
<td>lead (3.0-6.0%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 7440-31-5</th>
<th>RTECS: XP 7320000</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-141-8</td>
<td>tin (2.0-3.5%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 7440-02-0</th>
<th>RTECS: 231-111-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-111-4</td>
<td>nickel (0-2.0%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 7440-66-6</th>
<th>RTECS: ZG 8600000</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-175-3</td>
<td>zinc (7.0-9.5%)</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

- 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:

    | Component | PEL Long-term value | REL Long-term value | TLV Long-term value |
    |-----------|---------------------|---------------------|---------------------|
    | 7440-50-8 copper | 1* 0.1** mg/m³ as Cu | 1* 0.1** mg/m³ as Cu | 1* 0.2** mg/m³ *dusts and mists; **fume as Cu |
    | 7439-92-1 lead | 0.05* mg/m³ *see 29 CFR 1910.1025 | 0.05* mg/m³ *8-hr TWA ;See PocketGuide App.C | 0.05* mg/m³ *and inorganic compounds, as Pb; BEI |
    | 7440-31-5 tin | 2 mg/m³ metal | 2 mg/m³ metal | 2 mg/m³ metal |
    | 7440-02-0 nickel | 1 mg/m³ | 0.015 mg/m³ as Ni; See Pocket Guide App. A | 1.5* mg/m³ elemental, *inhalable fraction |
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.
    - 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: copper red
    - Odor: Odorless
    - Odor threshold: Not determined.

- Change in condition
  - Melting point/Melting range: 830-1040 °C (1526-1904 °F) (Lit.)
  - Boiling point/Boiling range: Undetermined.

- Flash point: Not applicable.
44.0
· Danger of explosion: Product does not present an explosion hazard.

· Density at 20 °C (68 °F): 8.9 g/cm³ (74.271 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.
· Carcinogenic categories
  · IARC (International Agency for Research on Cancer)
    7439-92-1 lead 2B
    7440-02-0 nickel 2B
  · NTP (National Toxicology Program)
    7439-92-1 lead R
    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: 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

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.

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
  7440-02-0 nickel

- TSCA (Toxic Substances Control Act):
  All ingredients are listed.
Trade name: Wieland GC4

- Proposition 65
  - Chemicals known to cause cancer:
    - 7439-92-1 lead
    - 7440-02-0 nickel
  - 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
    - 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 08/23/2017 / 7
- * Data compared to the previous version altered.