1 Identification

· 1.1 Product identifier
  · Trade name: Wieland-K57

· 1.2 Relevant identified uses of the substance or mixture and uses advised against
  No further relevant information available.
  · Application of the article: Semi-finished product

· 1.3 Details of the supplier of the safety data sheet
  · Manufacturer/Supplier: Wieland-Werke AG
    Graf-Arco-Str. 36
    89079 Ulm
  · Information department: Associations & Management Systems
    stefan.priggemeyer@wieland.com

· 1.4 Emergency telephone number: +49 731 944 2794 (Monday - Friday from 9 a.m. to 4 p.m.)

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 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 enviroment.
  · Results of PBT and vPvB assessment
  · PBT: Not applicable to metals.
  · vPvB: Not applicable to metals.

3 Composition/information on ingredients

· Description: Metal in compact form.
· Material Code (CEN/TS 13388): -
· Material number (CEN/TS 13388): -
· UNS-number: C70350
· Information:
  The classifications listed below reflect the classification of the relevant alloying constituents and are only for information.
  Mentioned percentages are references values.

<table>
<thead>
<tr>
<th>CAS: 7440-50-8</th>
<th>EINECS: 231-159-6</th>
<th>RTECS: GL 5325000</th>
<th>copper</th>
<th>Balance%</th>
</tr>
</thead>
</table>

(Contd. on page 2)
Trade name: Wieland-K57

<table>
<thead>
<tr>
<th>CAS: 7440-02-0</th>
<th>nickel</th>
<th>1.0-2.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-111-4</td>
<td></td>
<td>Carc. 2, H351; STOT RE 1, H372; Skin Sens. 1, H317</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 7440-48-4</th>
<th>cobalt</th>
<th>1.0-2.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-158-0</td>
<td></td>
<td>Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1B, H350; Repr. 1B, H360; Skin Sens. 1, H317; Aquatic Chronic 4, H413</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 7440-21-3</th>
<th>silicon</th>
<th>0.5-1.2%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-130-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS: GF 8750000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 7439-92-1</th>
<th>lead</th>
<th>max. 0.05%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 231-100-4</td>
<td></td>
<td>Carc. 2, H351; Repr. 1A, H360</td>
</tr>
<tr>
<td>RTECS: OF 7525000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 First-aid measures

4.1 Description of first aid measures
- General information:
  First Aid information refer to any dust which is generated. The mixture in solid form does not pose any significant health hazard. However, melting or activities which produce metal dust, smoke or fumes can cause that metal dust enter the body in harmful amounts.
- 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:
  Collect the material and if necessary dispose it as waste according to section 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.
· 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: Store in dry conditions.
· 7.3 Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

· 8.1 Control parameters
  · Additional information about design of technical systems: No further data; see item 7.
  · 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>7440-02-0 nickel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PEL</strong></td>
</tr>
<tr>
<td><strong>REL</strong></td>
</tr>
<tr>
<td><strong>as Ni</strong></td>
</tr>
<tr>
<td><strong>TLV</strong></td>
</tr>
<tr>
<td>*<em>elemental, <em>inhalable fraction, A5, BEI</em></em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7440-48-4 cobalt</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PEL</strong></td>
</tr>
<tr>
<td><strong>as Co</strong></td>
</tr>
<tr>
<td><strong>REL</strong></td>
</tr>
<tr>
<td><strong>as Co</strong></td>
</tr>
<tr>
<td><strong>TLV</strong></td>
</tr>
<tr>
<td>*<strong>inh. fraction; DSEN, RSEN, BEI, A3</strong></td>
</tr>
</tbody>
</table>
Trade name: Wieland-K57

7439-92-1 lead

<table>
<thead>
<tr>
<th></th>
<th>Long-term value: 0.05* mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
<td>*see 29 CFR 1910.1025</td>
</tr>
<tr>
<td>REL</td>
<td>*8-hr TWA ;See PocketGuide App.C</td>
</tr>
<tr>
<td>TLV</td>
<td>*and inorganic compds., as Pb; BEI, A3</td>
</tr>
</tbody>
</table>

Ingredients with biological limit values:

7440-02-0 nickel

<table>
<thead>
<tr>
<th>BEI</th>
<th>5 µg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium: urine</td>
<td></td>
</tr>
<tr>
<td>Time: post-shift at end of workweek</td>
<td></td>
</tr>
<tr>
<td>Parameter: Nickel (background)</td>
<td></td>
</tr>
<tr>
<td>30 µg/L</td>
<td></td>
</tr>
<tr>
<td>Medium: urine</td>
<td></td>
</tr>
<tr>
<td>Time: post-shift at end of workweek</td>
<td></td>
</tr>
<tr>
<td>Parameter: Nickel (background)</td>
<td></td>
</tr>
</tbody>
</table>

7440-48-4 cobalt

<table>
<thead>
<tr>
<th>BEI</th>
<th>15 µg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium: urine</td>
<td></td>
</tr>
<tr>
<td>Time: end of shift at end of workweek</td>
<td></td>
</tr>
<tr>
<td>Parameter: Cobalt (nonspecific)</td>
<td></td>
</tr>
</tbody>
</table>

7439-92-1 lead

<table>
<thead>
<tr>
<th>BEI</th>
<th>200 µg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium: blood</td>
<td></td>
</tr>
<tr>
<td>Time: not critical</td>
<td></td>
</tr>
<tr>
<td>Parameter: Lead</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.
- 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 workplace-limits are exceeded.

Protection of hands:

Protective gloves are recommended, depending upon how the semis are further processed (material of gloves: neoprene or leather).

Eye protection:

Protective goggles are recommended, depending upon how the semis are further processed.
Trade name: Wieland-K57

· 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: 1076-1111 °C (1968.8-2031.8 °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): 8.9 g/cm³ (74.2705 lbs/gal) (Lit.)
  · Solubility in / Miscibility with: Not soluble.
  · Solvent content:
    VOC content: 0.00 %

· 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

· General information:
  The solid product does not pose a health hazard if handled properly.
  Effect on the skin: No effects.
  Effect on eyes: No effects.
  Sensitization: Due to the nickel content avoid direct and prolonged skin contact.
12 Ecological information

- **12.1 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.
  - General notes: Semi-finished articles from copper and copper-alloys are not soluble in water.
- **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.
  - Waste disposal key:
    - 12 01 03: Non-ferrous metal fillings and turnings
    - 16 01 18: Non-ferrous metal for non-contaminated waste

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
    7440-02-0 nickel
    7440-48-4 cobalt
    7439-92-1 lead
  - TSCA (Toxic Substances Control Act):
    All components have the value ACTIVE.
  - Hazardous Air Pollutants:
    7440-48-4 cobalt
    7439-92-1 lead
  - Proposition 65
    - Chemicals known to cause cancer:
      7440-02-0 nickel
      7440-48-4 cobalt
      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
      7439-92-1 lead B2
    - TLV (Threshold Limit Value established by ACGIH):
      7440-02-0 nickel A5
      7440-48-4 cobalt A3
Trade name: **Wieland-K57**

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>7439-92-1</td>
<td>lead</td>
</tr>
</tbody>
</table>

- **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: Associations & Management Systems
- Contact:
  - Dr. Stefan Priggemeyer
  - Phone +49 731 944 2794
- * Data compared to the previous version altered.