1 Identification

· Product identifier
· Trade name: Wieland-K12
· Relevant identified uses of the substance or mixture and uses advised against
  No further relevant information available.
· Application of the article: Semi-finished product

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

2 Hazard(s) identification

· Classification of the substance or mixture:
  The product is not classified, according to the Globally Harmonized System (GHS).
· Label elements:
  GHS label elements Void
  Hazard pictograms: Void
  Signal word: Void
  Hazard statements: Void
· Other hazards
  · Results of PBT and vPvB assessment
    · PBT: Not applicable to metals.
    · vPvB: Not applicable to metals.

3 Composition/information on ingredients

· Chemical characterization: Mixtures
· Description: Metal in massive form.
· Material Code (CEN/TS 13388): Cu-HCP
· Material number (CEN/TS 13388): CW021A
· UNS-number: C10300
· Information:
  The classifications listed below reflect the classification of the relevant alloying constituents and are only
  for information.
  Mentioned percentages are references values.
· Alloy components:
  7440-50-8 copper
  min. 99.95%
(Contd. on page 2)
4 First-aid measures

· 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.

· Most important symptoms and effects, both acute and delayed:
  No further relevant information available.

· Indication of any immediate medical attention and special treatment needed:
  No further relevant information available.

5 Fire-fighting measures

· Extinguishing media
  · Suitable extinguishing agents: Non-flammable. Use fire fighting measures that suit the environment.

· Special hazards arising from the substance or mixture: No further relevant information available.

· Advice for firefighters
  · Protective equipment: No special measures required.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures: Not required.

· Environmental precautions: Not required.

· Methods and material for containment and cleaning up:
  Collect the material and if necessary dispose it as waste according to section 13.

· Reference to other sections:
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
Trade name: Wieland-K12

See Section 13 for disposal information.

7 Handling and storage

· Handling:
· Precautions for safe handling: No special measures required.

· 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.
· 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.

· Control parameters
· Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Substance</th>
<th>PEL Long-term value</th>
<th>REL Long-term value</th>
<th>TLV Long-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-50-8 copper</td>
<td>1* 0.1** mg/m³</td>
<td>1* 0.1** mg/m³</td>
<td>1* 0.2** mg/m³</td>
</tr>
<tr>
<td></td>
<td>as Cu *dusts and mists **fume</td>
<td>as Cu *dusts and mists **fume</td>
<td>as Cu *dusts and mists **fume</td>
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</tr>
</tbody>
</table>

· Additional information: The lists that were valid during the creation were used as basis.

· 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 work-place-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.
· Body protection:
  Wear suitable protective clothing, depending upon how the semis are further processed.
9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Solid
      - Color: Copper red
    - Odor:
      - Odor: Odorless
      - Odor threshold: Not determined.
    - Change in condition
      - Melting point/Melting range: 1083 °C (1981.4 °F)
      - 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): 8.94 g/cm³ (74.6043 lbs/gal)
    - Solubility in / Miscibility with water at 20 °C (68 °F): Not soluble.
    - Solvent separation test
      - VOC content: 0.00 %
  - Other information
    - No further relevant information available.

10 Stability and reactivity

- Reactivity: Not applicable.
- Chemical stability: Not applicable.
- Thermal decomposition / conditions to be avoided:
  - No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Acute toxicity:
- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
- Sensitization: No sensitizing effects known.
Trade name: Wieland-K12

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)
None of the ingredients is listed.

NTP (National Toxicology Program)
None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

12 Ecological information

Aquatic toxicity: No further relevant information available.
Persistence and degradability: No further relevant information available.
Behavior in environmental systems
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Results of PBT and vPvB assessment
PBT: Not applicable to metals.
vPvB: Not applicable to metals.
Other adverse effects: No further relevant information available.

13 Disposal considerations
Waste treatment methods
Recommendation: Contact manufacturer for recycling information.

14 Transport information

UN-Number
DOT, ADR, IMDG, IATA
Void

UN proper shipping name
DOT, ADR, IMDG, IATA
Void

Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA
Class
Void

(Contd. on page 6)
Trade name: Wieland-K12

- Packing group: Void
- DOT, ADR, IMDG, IATA: Void
- Environmental hazards: Not applicable.
- Special precautions for user: Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
  - Section 355 (extremely hazardous substances):
    7723-14-0 phosphorus
  - Section 313 (Specific toxic chemical listings):
    All ingredients are listed.
- TSCA (Toxic Substances Control Act):
  All components have the value ACTIVE.
- Hazardous Air Pollutants:
  7723-14-0 phosphorus
- Proposition 65
  - 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):
    All components have the value D.
- 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:** Associations & Management Systems
- **Contact:**
  - Dr. Stefan Priggemeyer
  - Email: stefan.priggemeyer@wieland.com
- *Data compared to the previous version altered.*