1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Capricorn 15
- **Relevant identified uses of the substance or mixture and uses advised against**
  No further relevant information available.
- **Application of the substance/the preparation**
  Manufacture of dental prosthesis
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Ivoclar Vivadent Inc.
    175 Pineview Drive, Amherst, N.Y. 14228
    USA
    Tel. +1 800 533 6825
    Fax +1 716 691 2285
  
  Ivoclar Vivadent Inc.
  1-6600 Dixie Road
  Mississauga, Ontario
  L5T 2Y2
  Canada
  Phone: +1 905 670 8499
  Fax: +1 905 670 3102
- **Information department:** Quality Assurance / Regulatory Affairs
- **Emergency telephone number:**
  - 24 Hour Emergency Assistance:
    - Emergency-Call USA - Infotrac: 1-800-535-5053
    - Emergency-Call Canada - Canutec: 1-613-996-6666

General MSDS Assistance:
- US: 1-800-533-6825
- Canada: 1-800-263-8182

2 Hazards identification

- **Classification of the substance or mixture**
  The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
  Not applicable.
- **Information concerning particular hazards for human and environment:**
  Avoid breathing of grinding dust and vapours. Melted material may cause burns.
- **Classification system:**
  The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**
  - GHS label elements Void
  - Hazard pictograms Void
  - Signal word Void
  - Hazard statements Void
- **Additional information:**
  Alloys do not require a label, providing they do not present a hazard to human health by inhalation, ingestion or contact with skin or to the aquatic environment in the form in which they are placed on the market.

(Contd. on page 2)
3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: Dental alloy

- Dangerous components:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>palladium</td>
<td>7440-05-3</td>
<td>25-100%</td>
</tr>
<tr>
<td>silver</td>
<td>7440-22-4</td>
<td>10-&lt;25%</td>
</tr>
<tr>
<td>indium</td>
<td>7440-74-6</td>
<td>1-&lt;10%</td>
</tr>
<tr>
<td>gallium</td>
<td>7440-55-3</td>
<td>1-&lt;2.5%</td>
</tr>
</tbody>
</table>

4 First aid measures

- Description of first aid measures
- General information: No special measures required.
- After inhalation:
  - Grinding dust: Supply fresh air; consult doctor in case of complaints.
  - In case of unconsciousness place patient stably in side position for transportation.
- After skin contact:
  - After contact with the molten product, cool rapidly with cold water.
- After eye contact:
  - Grinding dust: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - Mechanical effects only.
- Information for doctor:
  - 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 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents: The product is not flammable.
- Special hazards arising from the substance or mixture: No further relevant information available.
6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: No special measures required.
- Methods and material for containment and cleaning up: Pick up mechanically.
- 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

- Handling:
  - Precautions for safe handling
    Extractors are required on all machines used for thermal processing or splinter removal processes.
  - Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities
  - Storage:
    - Requirements to be met by storerooms and receptacles: No special requirements.
    - Information about storage in one common storage facility: Not required.
    - Further information about storage conditions: None.
- 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 (mg/m³)</th>
<th>REL (mg/m³)</th>
<th>TLV (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-22-4 silver</td>
<td>0.01</td>
<td>0.01</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>metal and soluble compounds (as Ag)</td>
<td>metal: dust and fume</td>
<td></td>
</tr>
<tr>
<td>7440-74-6 indium</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>and compounds, as In</td>
<td>metal: dust and fume</td>
<td></td>
</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: Usual hygienic measures for dental practice.
  - Breathing equipment: Use respiratory protective device against the effects of fumes/dust/aerosol.
  - Protection of hands:
    Protective gloves should always be worn during mechanical and thermal processing.
After use of gloves apply skin-cleaning agents and skin cosmetics.

- **Material of gloves**
  - Mechanical processing:
    - Leather gloves
    - Strong gloves
  - Thermal processing:
    - Heat protection gloves

- **Penetration time of glove material**
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**
  Always wear safety goggles during mechanical processing (grinding, sawing /cutting, drilling, milling).

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
  
  - **General Information**
    - **Appearance:**
      - Form: Solid
      - Color: White
    - Odor:
      - Odorless
    - Odour threshold:
      - Not determined.
  
  - **pH-value:**
    - Not applicable.

- **Change in condition**
  - Melting point/Melting range: 1230–1310 °C (2246–2390 °F)
  - Boiling point/Boiling range: Undetermined.

- **Flash point:**
  - Not applicable.

- **Flammability (solid, gaseous):**
  - Not determined.

- **Auto igniting:**
  - Product is not selfigniting.

- **Danger of explosion:**
  - Product does not present an explosion hazard.

- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.

- **Vapor pressure:**
  - Not applicable.

- **Density at 20 °C (68 °F):**
  - 11.5 g/cm³ (95.968 lbs/gal)

- **Relative density**
  - Not determined.

- **Vapour density**
  - Not applicable.

- **Evaporation rate**
  - Not applicable.

- **Solubility in / Miscibility with Water:**
  - Insoluble.

- **Partition coefficient (n-octanol/water):**
  - Not determined.

- **Viscosity:**
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.

- **Solvent content:**
  - Solids content: 100 %
35.0.51

· Other information
  No further relevant information available.

10 Stability and reactivity

· Reactivity
  No further relevant information available.

· Chemical stability
  Stable under normal handling and storage conditions.

· 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:
  None under normal conditions of storage and use.

11 Toxicological information

· Information on toxicological effects

  · Acute toxicity:
    · Primary irritant effect:
      · on the skin: No irritant effect.
      · on the eye: No irritating effect.
    · Sensitization: No sensitizing effects known.
    · Additional toxicological information:
      Fumes or dusts generated from cutting or grinding operations may cause respiratory irritation.

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

12 Ecological information

· Toxicity
  · Aquatic toxicity: No further relevant information available.

· Persistence and degradability
  · Mobility in soil: No further relevant information available.

· Behavior in environmental systems:
  · Bioaccumulative potential
    · No further relevant information available.

· Additional ecological information:
  · General notes: Generally not hazardous for water
  · Results of PBT and vPvB assessment
    · PBT: Not applicable.
    · vPvB: Not applicable.

· Other adverse effects
  No further relevant information available.

13 Disposal considerations

· Waste treatment methods
  · Recommendation:
    Take to an approved landfill or a waste incineration plant, under conditions approved by the local authority.
### 14 Transport information

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UN-Number</strong></td>
<td>NA3077</td>
</tr>
<tr>
<td><strong>DOT</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>ADR, ADN, IMDG, IATA</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>UN proper shipping name</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>ADR, ADN, IMDG, IATA</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>Transport hazard class(es)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DOT</strong></td>
<td>9 Miscellaneous</td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td>Dangerous substances</td>
</tr>
<tr>
<td><strong>Label</strong></td>
<td>9</td>
</tr>
<tr>
<td><strong>ADR, ADN, IMDG, IATA</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td>III</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>DOT</strong></td>
<td>III</td>
</tr>
<tr>
<td><strong>ADR, IMDG, IATA</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>Environmental hazards:</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>Marine pollutant:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Special precautions for user</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Transport in bulk according to Annex II of</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>MARPOL73/78 and the IBC Code</strong></td>
<td></td>
</tr>
<tr>
<td><strong>UN &quot;Model Regulation&quot;:</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

### 15 Regulatory information

- **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):**
      - 7440-22-4 silver
      - 7440-06-4 platinum
      - 7440-74-6 indium
      - 7439-88-5 iridium
    - **TSCA (Toxic Substances Control Act):**
      - 7440-57-5 Gold
      - 7440-22-4 silver
      - 7440-50-8 copper
      - 7440-06-4 platinum
      - 7440-74-6 indium
      - 7439-88-5 iridium
Trade name: Capricorn 15

- **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.

- **Carcinogenic categories**
  - **EPA (Environmental Protection Agency)**
    - 7440-22-4 silver D
    - 7440-50-8 copper 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.
  - **OSHA-Ca (Occupational Safety & Health Administration)**
    None of the ingredients is listed.

- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void

- **National regulations:**
  - **Other regulations, limitations and prohibitive regulations**
    The product is a medical device according to the EC-directive 93/42/EEC.
    This product is classified as a medical device under US and Canadian regulations and has been reviewed by the US Food and Drug Administration and Health Canada.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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16 **Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)