1 Identification of the substance or mixture and of the supplier

- **Product identifier**
  
  **Trade name**: 650 Fine Gold Solder

- **Relevant identified uses of the substance or mixture and uses advised against**
  
  No further relevant information available.

- **Application of the substance / the mixture**
  
  Manufacture of dental prothesis

- **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

  **Importer:**
  Ivoclar Vivadent Ltd.
  12 Omega St, Rosedale, Auckland
  New Zealand
  Tel: +64 9 914 9999 / Fax: +64 9 914 9990

- **Further information obtainable from:**
  
  Regulatory Affairs
  sds@ivoclarvivadent.com

- **Emergency telephone number:** 0800 764 766 (National Poison Centre - 24 hours / 7 days)

2 Hazards identification

- **Classification of the substance or mixture**
  
  Skin Irrit. 2 H315 Causes skin irritation.
  Eye Irrit. 2A H319 Causes serious eye irritation.
  Aquatic Acute 3 H402 Harmful to aquatic life.
  Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Label elements**

  **GHS label elements**
  The product is classified and labelled according to the Globally Harmonised System (GHS).

- **Hazard pictograms**

  [GHS07]

- **Signal word**
  Warning

- **Hazard statements**
  Causes skin irritation.
  Causes serious eye irritation.
  Harmful to aquatic life with long lasting effects.

- **Precautionary statements**
  Wear protective gloves / eye protection / face protection.
  IF ON SKIN: Wash with plenty of water.
  Specific treatment (see on this label).
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  Take off contaminated clothing and wash it before reuse.

(Contd. on page 2)
Dispose of contents/container in accordance with local/regional/national/international regulations.

- **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.

- **Other hazards**
  - Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

### 3 Composition/Information on ingredients

- **Chemical characterisation:** Mixtures
- **Description:** Dental alloy

<table>
<thead>
<tr>
<th>Dangerous components</th>
<th>CAS: 7440-50-8</th>
<th>EINECS: 231-159-6</th>
<th>copper 10-25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 7440-22-4</td>
<td>EINECS: 231-131-3</td>
<td>silver 10-25%</td>
<td></td>
</tr>
<tr>
<td>CAS: 7440-55-3</td>
<td>EINECS: 231-163-8</td>
<td>gallium</td>
<td>Skin Corr. 1B, H314</td>
</tr>
<tr>
<td>CAS: 7440-66-6</td>
<td>EINECS: 231-175-3</td>
<td>zinc powder - zinc dust (stabilized)</td>
<td>Aquatic Acute 1, H400; Aquatic Chronic 1, H410</td>
</tr>
</tbody>
</table>

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### 4 First aid measures

- **Description of first aid measures**
- **General information:** No special measures required.

- **After inhalation:**
  Grindnig 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.
  If skin irritation continues, consult a doctor.

- **After eye contact:**
  Grinding dust: Rinse opened eye for several minutes under running water. If symptoms persist, consult an a doctor.
  Mechanical effects only.

- **After swallowing:** Seek medical treatment.

- **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 Fire fighting 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.
  - Do not allow to enter sewers/surface or ground water.
- **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 fire - and explosion protection:** 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 facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
  | CAS: 7440-30-8 copper | WES | Long-term value: 0.2* 1** mg/m³ |
  | | | *fume; **dusts and mists, as Cu |
  | CAS: 7440-22-4 silver | WES | Long-term value: 0.1* 0.01** mg/m³ |
  | | | *metal; ** soluble compds., as Ag |
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - Usual hygienic measures for dental practice and dental laboratories.
  - Wash hands before breaks and at the end of work.
  - Keep away from foodstuffs, beverages and feed.
- **Respiratory protection:** 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.
Trade name: **650 Fine Gold Solder**

- **Material of gloves**
  - Mechanical processing:
    - Leather gloves
    - Strong material 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
      - Colour: Gold coloured
    - Odour: Odourless
    - Odour threshold: Not determined.
    - pH-value: Not applicable.
  - **Change in condition**
    - Melting point/freezing point: 785 - 835 °C
    - Initial boiling point and boiling range: Undetermined.
  - **Flash point**: Not applicable.
  - **Flammability (solid, gas)**: Not determined.
  - **Auto-ignition temperature**: Product is not selfigniting.
  - **Explosive properties**: Product does not present an explosion hazard.
  - **Explosion limits**:
    - Lower: Not determined.
    - Upper: Not determined.
  - **Vapour pressure**: Not applicable.
  - **Density**: Not determined.
  - **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.
    - 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
  - Skin corrosion/irritation: No irritant effect.
  - Serious eye damage/irritation: Mechanical effects only.
  - Respiratory or skin sensitisation: No sensitising effects known.
  - Additional toxicological information: Fumes or dusts generated from cutting or grinding operations may cause respiratory irritation.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Behaviour in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
  - Additional ecological information:
  - General notes: Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
    Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - 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.
- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.
14 Transport information

<table>
<thead>
<tr>
<th>Description</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-Number</td>
<td>Void</td>
</tr>
<tr>
<td>ADR/RID/ADN, ADN, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>Void</td>
</tr>
<tr>
<td>ADR/RID/ADN, ADN, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>Class</td>
</tr>
<tr>
<td>ADR/RID/ADN, ADN, IMDG, IATA</td>
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<tr>
<td>Packing group</td>
<td>Void</td>
</tr>
<tr>
<td>ADR/RID/ADN, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>Environmental hazards:</td>
<td>No</td>
</tr>
<tr>
<td>Marine pollutant:</td>
<td>No</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of Marpol and the IBC Code</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Transport/Additional information:</td>
<td>Product is not classified as a dangerous good for transport (ADR, IMDG, IATA).</td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
<td>Void</td>
</tr>
</tbody>
</table>

15 Regulatory information

<table>
<thead>
<tr>
<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Safety, health and environmental regulations/legislation specific for the substance or mixture</td>
<td></td>
</tr>
<tr>
<td>New Zealand Inventory of Chemicals</td>
<td></td>
</tr>
<tr>
<td>CAS: 7440-50-8 copper</td>
<td></td>
</tr>
<tr>
<td>CAS: 7440-22-4 silver</td>
<td></td>
</tr>
<tr>
<td>CAS: 7440-55-3 gallium</td>
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</tr>
<tr>
<td>HSNO Approval numbers</td>
<td></td>
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<tr>
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<td></td>
</tr>
<tr>
<td>CAS: 7440-22-4 silver HSR003077</td>
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<tr>
<td>GHS label elements</td>
<td></td>
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<tr>
<td>The product is classified and labelled according to the Globally Harmonised System (GHS).</td>
<td></td>
</tr>
<tr>
<td>Hazard pictograms</td>
<td>GHS07</td>
</tr>
<tr>
<td>Signal word Warning</td>
<td></td>
</tr>
<tr>
<td>Hazard statements</td>
<td></td>
</tr>
<tr>
<td>Causes skin irritation.</td>
<td></td>
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<tr>
<td>Causes serious eye irritation.</td>
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<tr>
<td>Harmful to aquatic life with long lasting effects.</td>
<td></td>
</tr>
<tr>
<td>Precautionary statements</td>
<td></td>
</tr>
<tr>
<td>Wear protective gloves / eye protection / face protection.</td>
<td></td>
</tr>
<tr>
<td>IF ON SKIN: Wash with plenty of water.</td>
<td></td>
</tr>
</tbody>
</table>

(Contd. of page 5)
Specific treatment (see on this label).
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Take off contaminated clothing and wash it before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- National regulations:
- Other regulations, limitations and prohibitive regulations
  The product is a medical device according to the Directive 93/42/EEC.
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

### 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.

- Relevant phrases
  H314 Causes severe skin burns and eye damage.
  H400 Very toxic to aquatic life.
  H410 Very toxic to aquatic life with long lasting effects.
- 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
  IATA: International Air Transport Association
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Skin Corr. 1B: Skin corrosion/irritation – Category 1B
  Skin Irrit. 2: Skin corrosion/irritation – Category 2
  Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
  Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
  Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3
  Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
  Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3