1 Identification

- 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 prosthesis
  Dental alloy

- 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 Hazard(s) identification

- Classification of the substance or mixture
  Skin Irrit. 2  H315  Causes skin irritation.
  Eye Irrit. 2A  H319  Causes serious eye irritation.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC
  Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- 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
    The product is classified and labeled according to the Globally Harmonized System (GHS).
Safety Data Sheet
acc. to OSHA HCS

Trade name: 650 Fine Gold Solder

- Hazard pictograms
  
  GHS07

- Signal word Warning
- Hazard statements
  Causes skin irritation.
  Causes serious eye irritation.
- Precautionary statements
  Wear protective gloves/protective clothing/eye protection/face protection.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  Specific treatment (see on this label).
  Take off contaminated clothing.
  If skin irritation occurs: Get medical advice/attention.
  If eye irritation persists: Get medical advice/attention.
- 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.
- Classification system:
- NFPA ratings (scale 0 - 4)

  Health = 0
  Fire = 0
  Reactivity = 0

- HMIS-ratings (scale 0 - 4)

  HEALTH 0
  Health = 0
  FIRE 0
  Fire = 0
  REACTIVITY 0
  Reactivity = 0

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

3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: Dental alloy

- Dangerous components:

| 7440-50-8  | copper     | 10-<25% |
| 7440-22-4  | silver     | 10-<25% |
| 7440-55-3  | gallium    | 1-<2.5% |
| 7440-66-6  | zinc powder-zinc dust (stabilized) | 0.25-<1% |
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.
    - 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 a doctor.
    - Mechanical effects only.
  - **After swallowing:**
    - Seek medical treatment.
  - **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.
- **Advice for firefighters**
  - **Protective equipment:** Do not inhale explosion gases or combustion gases.

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

- **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.
8 Exposure controls/personal protection

- Specific end use(s) No further relevant information available.

- 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:

  7440-50-8 copper
  
  | PEL | Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume |
  | REL | Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume |
  | TLV | Long-term value: 1* 0.2** mg/m³ *dusts and mists; **fume; as Cu |

  7440-22-4 silver
  
  | PEL | Long-term value: 0.01 mg/m³ metal and soluble compounds (as Ag) |
  | REL | Long-term value: 0.01 mg/m³ |
  | TLV | Long-term value: 0.1 mg/m³ metal: dust and fume |

- 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.
  Wash hands before breaks and at the end of work.
  Keep away from foodstuffs, beverages and feed.

- 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 breakthrough 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: Gold colored
    - Odor: Odorless
    - Odour threshold: Not determined.
  - pH-value: Not applicable.
- Change in condition
  - Melting point/Melting range: 785 - 835 °C (1445 - 1535 °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.
- 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.
- 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:
- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: Mechanical effects only.
- 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: No further relevant information available.
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes:
    Water hazard class 1 (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 packagings:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, ADR, ADN, IMDG, IATA: Void
- UN proper shipping name
  - DOT, ADR, ADN, IMDG, IATA: Void
# Safety Data Sheet

Trade name: **650 Fine Gold Solder**

<table>
<thead>
<tr>
<th><strong>Transport hazard class(es)</strong></th>
<th>Void</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td></td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>Void</td>
</tr>
<tr>
<td>DOT, ADR, IMDG, IATA</td>
<td></td>
</tr>
<tr>
<td><strong>Environmental hazards:</strong></td>
<td></td>
</tr>
<tr>
<td>Marine pollutant:</td>
<td>No</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 MARPOL73/78 and the IBC Code</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Transport/Additional information:</strong></td>
<td>Product is not classified as a dangerous good for transport (ADR, IMDG, IATA).</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):**
    - 7440-50-8 copper
    - 7440-22-4 silver
  - **TSCA (Toxic Substances Control Act):**
    - 7440-50-8 copper
    - 7440-22-4 silver
    - 7440-55-3 gallium
  - **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**

<table>
<thead>
<tr>
<th>EPA (Environmental Protection Agency)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-50-8 copper</td>
<td>D</td>
</tr>
<tr>
<td>7440-22-4 silver</td>
<td>D</td>
</tr>
<tr>
<td>7440-66-6 zinc powder -zinc dust (stabilized)</td>
<td>H</td>
</tr>
</tbody>
</table>
## Trade name: 650 Fine Gold Solder

### 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
The product is classified and labeled according to the Globally Harmonized System (GHS).

### Hazard pictograms

![GHS07](image)

### Signal word
Warning

### Hazard statements
Causes skin irritation.  
Causes serious eye irritation.

### Precautionary statements
Wear protective gloves/protective clothing/eye protection/face protection.  
If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Specific treatment (see on this label).  
Take off contaminated clothing.  
If skin irritation occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.

### National regulations:

### Other regulations, limitations and prohibitive regulations

The product is a medical device according to the 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.

#### 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.

### Date of preparation / last revision
04/24/2014 / 6

### 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  
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)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2  
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A