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

- **Product identifier**
- **Trade name:** Y-2
- **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 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

  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**
  Ox. Sol. 2 \( H272 \) May intensify fire; oxidizer.

- **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
  The product is classified and labelled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**

  ![GHS03]

- **Signal word** Danger
- **Hazard statements**
  May intensify fire; oxidizer.
35.0.51

Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Take any precaution to avoid mixing with combustibles.
Wear protective gloves/protective clothing/eye protection/face protection.
Keep/Store away from clothing/combustible materials.
In case of fire: Use for extinction: CO₂, powder or water spray.
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.

Classification system:

NFPA ratings (scale 0 - 4)

\[
\begin{array}{c|c|c|c}
\text{Health} & \text{Fire} & \text{Reactivity} \\
0 & 0 & 0
\end{array}
\]

HMIS-ratings (scale 0 - 4)

\[
\begin{array}{c|c|c|c}
\text{Health} & \text{Fire} & \text{Reactivity} \\
0 & 0 & 0
\end{array}
\]

Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

Composition/information on ingredients

Chemical characterization: Mixtures
Description: Dental alloy

Dangerous components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Name</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-06-4</td>
<td>platinum</td>
<td>1-&lt;10%</td>
</tr>
<tr>
<td>7440-05-3</td>
<td>palladium</td>
<td>1-&lt;10%</td>
</tr>
<tr>
<td>7440-22-4</td>
<td>silver</td>
<td>1-&lt;10%</td>
</tr>
</tbody>
</table>

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.

After swallowing: Seek medical treatment.

Information for doctor:
Most important symptoms and effects, both acute and delayed No further relevant information available.
Trade name: Y-2

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.
- 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.
- 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

<table>
<thead>
<tr>
<th>Component</th>
<th>PEL (mg/m³)</th>
<th>REL (mg/m³)</th>
<th>TLV (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-06-4 platinum</td>
<td>0.002</td>
<td>1*0.002**</td>
<td>1*0.002**</td>
</tr>
<tr>
<td></td>
<td>soluble salts, as Pt</td>
<td>soluble salts, as Pt</td>
<td>soluble salts, as Pt</td>
</tr>
</tbody>
</table>

(Contd. on page 4)
Trade name: Y-2

7440-22-4 silver

PEL () 0.01 mg/m³  
metal and soluble compounds (as Ag)
REL () 0.01 mg/m³
TLV () 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.
  - 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: Yellow
  - Odor: Odorless
  - Odour threshold: Not determined.

- pH-value: Not applicable.

- Change in condition
  - Melting point/Melting range: 1105–1205 °C (2021–2201 °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.
Safety Data Sheet
acc. to ISO/DIS 11014

Trade name: Y-2

- Density at 20 °C (68 °F): 17.4 g/cm³ (145.203 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%
- 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: No further relevant information available.
  - Behavior in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 12/18/2012
Reviewed on 12/18/2012

Trade name: Y-2

(Contd. of page 5)

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 NA3077
- DOT Void
- ADR, ADN, IMDG, IATA Void
- UN proper shipping name Void
- ADR, ADN, IMDG, IATA Void
- Transport hazard class(es)
  - DOT Class 9 Miscellaneous dangerous substances and articles.
  - Label 9
- ADR, ADN, IMDG, IATA Void
- Class Void
- Packing group
  - DOT Class III
  - ADR, IMDG, IATA Void
- Environmental hazards:
  - Marine pollutant: No
- Special precautions for user Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
- UN "Model Regulation": -

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):

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>silver</td>
<td>7440-22-4</td>
</tr>
<tr>
<td>copper</td>
<td>7440-50-8</td>
</tr>
</tbody>
</table>

### TSCA (Toxic Substances Control Act):

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>7440-57-5</td>
</tr>
<tr>
<td>silver</td>
<td>7440-22-4</td>
</tr>
<tr>
<td>copper</td>
<td>7440-50-8</td>
</tr>
<tr>
<td>platinum</td>
<td>7440-06-4</td>
</tr>
<tr>
<td>indium</td>
<td>7440-74-6</td>
</tr>
<tr>
<td>iridium</td>
<td>7439-88-5</td>
</tr>
</tbody>
</table>

### 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)**
  
<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
<th>Carcinogenic Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>silver</td>
<td>7440-22-4</td>
<td>D</td>
</tr>
<tr>
<td>copper</td>
<td>7440-50-8</td>
<td>D</td>
</tr>
</tbody>
</table>

- **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 labelled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**

  ![GHS03](image)

- **Signal word** Danger

- **Hazard statements**
  
  May intensify fire; oxidizer.

- **Precautionary statements**
  
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  
  Take any precaution to avoid mixing with combustibles.
  
  Wear protective gloves/protective clothing/eye protection/face protection.
  
  Keep/Store away from clothing/combustible materials.
In case of fire: Use for extinction: CO2, powder or water spray. 
Dispose of contents/container in accordance with local/regional/national/international regulations.

- 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.

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)