1 Identification

- **Product identifier**
  - **Trade name:** Universal Solder PKF
- **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 SDS Assistance:
    - US: 1-800-533-6825
    - Canada: 1-800-263-8182

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
- **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

(Contd. on page 2)
Trade name: Universal Solder PKF

- HMIS-ratings (scale 0 - 4)
  
<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FIRE</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Fire</td>
<td>Reactivity</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- 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:
  - 7440-22-4 silver 25-50%
  - 7440-66-6 zinc powder -zinc dust (stabilized) 2.5-<10%
  - 7440-06-4 platinum 2.5-<10%

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.
- 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:
  - CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 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

- **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**: Store away from flammable substances.
    - **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**:
    - **7440-22-4 silver**
    - PEL Long-term value: 0.01 mg/m³
    - REL Long-term value: 0.01 mg/m³
    - TLV Long-term value: 0.1 mg/m³
    - Metal: dust and fume
    - **7440-06-4 platinum**
    - PEL Long-term value: 0.002 mg/m³
    - REL Long-term value: 1* 0.002** mg/m³
    - Metal: soluble salts, as Pt
    - TLV Long-term value: 1* 0.002** mg/m³
    - Metal: soluble salts, as Pt
  - **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.
9 Physical and chemical properties

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

- Change in condition
  - Melting point/Melting range: 1100 - 1165 °C (2012 - 2129 °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: 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.
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: Reacts with reducing agents.
- 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.
  - OSHA-Ca (Occupational Safety & Health Administration): 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.
  - Additional ecological information:
    - General notes:
      - Water hazard class 2 (Self-assessment): hazardous for water
      - Do not allow product to reach ground water, water course or sewage system.
      - Danger to drinking water if even small quantities leak into the ground.
    - 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

<table>
<thead>
<tr>
<th><strong>UN-Number</strong></th>
<th>NA3077</th>
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<tbody>
<tr>
<td><strong>DOT</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>ADR, ADN, IMDG, IATA</strong></td>
<td>Void</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>UN proper shipping name</strong></th>
<th>Oxidizing solid, n.o.s.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOT</strong></td>
<td>1479 Oxidizing solid, n.o.s., ENVIRONMENTALLY HAZARDOUS</td>
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<tr>
<td><strong>ADR, ADN, IMDG, IATA</strong></td>
<td>Void</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Transport hazard class(es)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOT</strong></td>
</tr>
<tr>
<td><strong>ADR, ADN, IMDG, IATA</strong></td>
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</table>

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<thead>
<tr>
<th><strong>Packing group</strong></th>
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<tbody>
<tr>
<td><strong>DOT</strong></td>
</tr>
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<td><strong>ADR, ADN, IMDG, IATA</strong></td>
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<table>
<thead>
<tr>
<th><strong>Environmental hazards:</strong></th>
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<tbody>
<tr>
<td><strong>Marine pollutant:</strong> No</td>
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<tr>
<th><strong>Special precautions for user</strong></th>
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<tr>
<td>Not applicable.</td>
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<thead>
<tr>
<th><strong>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</strong></th>
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<tbody>
<tr>
<td>Not applicable.</td>
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<thead>
<tr>
<th><strong>Transport/Additional information:</strong></th>
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</thead>
<tbody>
<tr>
<td>Product is not classified as a dangerous good for transport (ADR, IMDG, IATA).</td>
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</table>

<table>
<thead>
<tr>
<th><strong>UN &quot;Model Regulation&quot;:</strong></th>
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<tbody>
<tr>
<td>UN1479, Oxidizing solid, n.o.s., ENVIRONMENTALLY HAZARDOUS, 5.1, II</td>
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</tbody>
</table>

### 15 Regulatory information

<table>
<thead>
<tr>
<th><strong>Safety, health and environmental regulations/legislation specific for the substance or mixture</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sara</strong></td>
</tr>
<tr>
<td><strong>Section 355 (extremely hazardous substances):</strong> None of the ingredients is listed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Section 313 (Specific toxic chemical listings):</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-22-4 silver</td>
</tr>
</tbody>
</table>
Trade name: Universal Solder PKF

- **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

- **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.

- **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 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** 06/24/2015 / 3
- **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
**Trade name: Universal Solder PKF**

- 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)