1 Identification of the substance or mixture and of the supplier

- **Product identifier**
  - **Trade name:** Super Solder Ceramic 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
  - 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

  - **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**
  - Ox. Sol. 2 H272 May intensify fire; oxidiser.
  - Skin Sens. 1 H317 May cause an allergic skin reaction.
  - Care. 2 H351 Suspected of causing cancer.
  - STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

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

- **Hazard pictograms**
  - GHS03
  - GHS07
  - GHS08

- **Signal word** Danger

- **Hazard-determining components of labelling:**
  - nickel

- **Hazard statements**
  - May intensify fire; oxidiser.
  - May cause an allergic skin reaction.
  - Suspected of causing cancer.
  - Causes damage to organs through prolonged or repeated exposure.

(Contd. on page 2)
Precautionary statements
Obtain special instructions before use.
Keep away from heat. - No smoking.
Take any precaution to avoid mixing with combustibles.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
Store locked up.
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

Dangerous components:

<table>
<thead>
<tr>
<th>CAS</th>
<th>Description</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-02-0</td>
<td>nickel</td>
<td>25-50%</td>
</tr>
<tr>
<td>7440-22-4</td>
<td>silver</td>
<td>2.5-10%</td>
</tr>
<tr>
<td>7440-31-5</td>
<td>tin</td>
<td>2.5-10%</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:
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:
Rinse with water.
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.

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**: Use fire extinguishing methods suitable to surrounding conditions.
- **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 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** Store away from reducing agents.
- **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**: 7440-02-0 nickel
    - **WES Long-term value**: 0.005* mg/m³
    - sen; elemental or metallic; *resp.dust
  - **CAS**: 7440-22-4 silver
    - **WES Long-term value**: 0.1* 0.01** mg/m³
    - *metal; **soluble compds., as Ag
  - **CAS**: 7440-31-5 tin
    - **WES Long-term value**: 2 mg/m³
- **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.
Do not inhale dust / smoke / mist.

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.

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: Grey
Odour: Odourless
Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition
Melting point/freezing point: 1085 - 1180 °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.
### 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

- **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.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)** Carc. 2

### 12 Ecological information

- **Toxicity** No further relevant information available.
- **Aquatic toxicity**: No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems**: 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 2 (German Regulation) (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 packaging:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

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

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - New Zealand Inventory of Chemicals
    All ingredients are listed.
- HSNO Approval numbers
  - CAS: 7440-02-0  nickel  HSR003031
  - CAS: 7440-22-4  silver  HSR003077
  - CAS: 7440-31-3  tin  HSR002803
- GHS label elements
  - The product is classified and labelled according to the Globally Harmonised System (GHS).
- Hazard pictograms
  - GHS03
  - GHS07
  - GHS08
Trade name: Super Solder Ceramic Solder

Signal word: Danger

Hazard-determining components of labelling:
- nickel

Hazard statements:
- May intensify fire; oxidiser.
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Precautionary statements:
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- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Store locked up.
- 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.
- Seveso category P8 OXIDISING LIQUIDS AND SOLIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

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:
- H317 May cause an allergic skin reaction.
- H351 Suspected of causing cancer.
- H372 Causes damage to organs through prolonged or repeated exposure.

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
- Ox. Sol. 2: Oxidizing solids – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1
- Carc. 2: Carcinogenicity – Category 2
- STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1