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

- 1.1 Product identifier
  Trade name: Special High Fusing White Ceramic Solder

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

- 1.3 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

  Further information obtainable from:
  Ivoclar Vivadent AG, FL-9494 Schaan, Liechtenstein
  Regulatory Affairs
  sds@ivoclarvivadent.com

- 1.4 Emergency telephone number:
  +423 / 235 33 13 (Ivoclar Vivadent AG, FL-9494 Schaan, Liechtenstein)

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
  Classification according to Regulation (EC) No 1272/2008
  Ox. Sol. 2 H272 May intensify fire; oxidiser.

- 2.2 Label elements
  Labelling according to Regulation (EC) No 1272/2008
  The product is classified and labelled according to the CLP regulation.

- Hazard pictograms

  GHS03

- Signal word Danger

- Hazard statements
  H272 May intensify fire; oxidiser.

- Precautionary statements
  P210  Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  P221  Take any precaution to avoid mixing with combustibles.
  P280  Wear protective gloves/protective clothing/eye protection/face protection.
  P220  Keep/Store away from clothing/combustible materials.
  P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
  P501  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.

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

(Contd. on page 2)
SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures
- Description: Dental alloy
- Dangerous components:

<table>
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<th>CAS: 7440-22-4</th>
<th>silver</th>
<th>substance with a Community workplace exposure limit 25-50%</th>
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<td>EINECS: 231-115-6</td>
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</table>

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

SECTION 4: First aid measures

4.1 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.

4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
- Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture
No further relevant information available.

5.3 Advice for firefighters
- Protective equipment: Do not inhale explosion gases or combustion gases.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Not required.

6.2 Environmental precautions:
No special measures required.

6.3 Methods and material for containment and cleaning up:
Pick up mechanically.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
SECTION 7: Handling and storage

- 7.1 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.

- 7.2 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.

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

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- 8.1 Control parameters

- Ingredients with limit values that require monitoring at the workplace:
  - 7440-22-4 silver
  WEL Long-term value: 0.1 mg/m³

- Additional information: The lists valid during the making were used as basis.

- 8.2 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.
    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).

(Contd. of page 4)
SECTION 9: Physical and chemical properties

9.1 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/Melting range:** 1045 - 1105 °C
  - **Boiling point/Boiling range:** Undetermined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.
- **Self-igniting:** Product is not self-igniting.
- **Danger of explosion:** 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.

9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No further relevant information available.

10.2 Chemical stability

Stable under normal handling and storage conditions.

10.3 Possibility of hazardous reactions

Reacts with reducing agents.

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

None under normal conditions of storage and use.
SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity:
- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: Mechanical effects only.
- Sensitisation: No sensitising effects known.

Additional toxicological information:
Fumes or dusts generated from cutting or grinding operations may cause respiratory irritation.

SECTION 12: Ecological information

12.1 Toxicity
- Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability
- No further relevant information available.

12.3 Bioaccumulative potential
- No further relevant information available.

12.4 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.

12.5 Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- 12.6 Other adverse effects
  No further relevant information available.

SECTION 13: Disposal considerations

13.1 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.

SECTION 14: Transport information

14.1 UN-Number
- ADR, ADN, IMDG, IATA: Void

14.2 UN proper shipping name
- ADR, ADN, IMDG, IATA: Void

14.3 Transport hazard class(es)
- ADR, ADN, IMDG, IATA: Void

14.4 Packing group
- ADR, IMDG, IATA: Void
Trade name: Special High Fusing White Ceramic Solder

14.5 Environmental hazards:
- Marine pollutant: No

14.6 Special precautions for user: Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 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": -

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:
- National regulations:
- Other regulations, limitations and prohibitive regulations:
  The product is a medical device according to the Directive 93/42/EEC.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 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:
- H252 Self-heating in large quantities; may catch fire.
- H272 May intensify fire; oxidiser.

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
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- 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)
- Self-heat. 2: Self-Heating Substances and Mixtures, Hazard Category 2
- Ox. Sol. 2: Oxidising Solids, Hazard Category 2