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

- **1.1 Product identifier**
  - Trade name: d.SIGN 59

- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
  - Application of the substance / the mixture: Manufacture of dental prosthesis

- **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)
Trade name: d.SIGN 59

- vPoB: Not applicable.

SECTION 3: Composition/information on ingredients

- 3.2 Chemical characterisation: Mixtures
  - Description: Dental alloy
  - Dangerous components:
    | CAS     | EINECS   | Substance                           | % |
    |---------|----------|-------------------------------------|---|
    | 7440-05-3 | 231-115-6 | palladium Self-heat. 2, H252; Ox. Sol. 2, H272 | 50-100% |
    | 7440-22-4 | 231-131-3 | silver substance with a Community workplace exposure limit | 25-50% |

- 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.
  - 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: The product is not flammable.
  - 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.
  - See Section 13 for disposal information.
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.

- **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:** Not required.
    - **Further information about storage conditions:** None.

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

SECTION 8: Exposure controls/personal protection

- **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

- **8.2 Exposure controls**
  - **Personal protective equipment:**
    - **General protective and hygienic measures:** Usual hygienic measures for dental practice.
    - **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).

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - Form: Solid
      - Colour: White
    - **Odour:** Odourless
    - **Odour threshold:** Not determined.
  - **pH-value:** Not applicable.
Trade name: d.SIGN 59

<table>
<thead>
<tr>
<th>· Change in condition</th>
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<tbody>
<tr>
<td>Melting point/Melting range:</td>
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<tr>
<td>Boiling point/Boiling range:</td>
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<tr>
<td>· Flash point:</td>
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<tr>
<td>· Flammability (solid, gaseous):</td>
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<tr>
<td>· Self-igniting:</td>
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<td>· Danger of explosion:</td>
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<tr>
<td>· Explosion limits:</td>
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<td>Lower:</td>
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<td>Upper:</td>
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<tr>
<td>· Vapour pressure:</td>
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<tr>
<td>· Density at 20 °C:</td>
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<tr>
<td>· Relative density</td>
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<tr>
<td>· Vapour density</td>
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<tr>
<td>· Evaporation rate</td>
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<tr>
<td>· Solubility in / Miscibility with water:</td>
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<td>· Partition coefficient (n-octanol/water):</td>
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<td>· Viscosity:</td>
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<tr>
<td>Kinematic:</td>
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<tr>
<td>· Solvent content:</td>
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<tr>
<td>Solids content:</td>
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<tr>
<td>· 9.2 Other information</td>
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</tbody>
</table>

SECTION 10: Stability and reactivity

· 10.1 Reactivity: No further relevant information available.
· 10.2 Chemical stability: Stable under normal handling and storage conditions.
· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
· 10.3 Possibility of hazardous reactions: No dangerous reactions known.
· 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: No irritating effect.
· Sensitisation: No sensitising effects known.

(Contd. on page 5)
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: Generally not hazardous for water
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.

European waste catalogue
20 01 40 metals

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
Class Void

14.4 Packing group
ADR, IMDG, IATA Void

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 MARPOL73/78 and the IBC Code
Not applicable.

Transport/Additional information: Product is not classified as a dangerous good for transport (ADR, IMDG, IATA).
**SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- National regulations:

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

- * Data compared to the previous version altered.