1 Identification

- **Product identifier**
  - **Trade name:** **IPS e.max ZirCAD (Block/Disc)**
  - **CAS Number:** 66402-68-4
  - **EC number:** 266-340-9

- **Application of the substance / the mixture**
  - Manufacture of dental prosthesis
  - Yttrium-stabilized zirconium oxide block for the CAD/CAM technology
  - Yttrium-stabilized zirconium oxide disc for the CAD/CAM technology

- **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 substance 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

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**

  - Health = 0
  - Fire = 0
  - Reactivity = 0

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

- Chemical characterization: Substances
- CAS No. Description
  66402-68-4 ceramic materials
- Identification number(s) ---
- EC number: 266-340-9

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.
  - After skin contact: Generally the product does not irritate the skin.
  - 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:
    Grinding dust: Rinse out mouth and then drink plenty of water.
    If symptoms persist consult doctor.
- 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: The product is not flammable.
- Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
- Protective equipment: No special measures required.

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.
7 Handling and storage

- **Handling:**
  - **Precautions for safe handling**
    Only adequately trained personnel should handle this product.
    For use in dentistry only.
  - **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:** Store only in the original receptacle.
  - **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**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **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 and dental laboratories.
    Keep away from foodstuffs, beverages and feed.
    Wash hands before breaks and at the end of work.
  - **Breathing equipment:**
    Mechanical processing:
    Use respiratory protective device against the effects of dust.
  - **Recommended filter device for short term use:** Filter P1
  - **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
  - **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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance:</strong></td>
<td>Solid</td>
</tr>
<tr>
<td>Form:</td>
<td>Solid</td>
</tr>
<tr>
<td>Color:</td>
<td>According to product specification</td>
</tr>
<tr>
<td>Odor:</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>pH-value:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range:</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>Undetermined.</td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gaseous):</strong></td>
<td>Product is not flammable.</td>
</tr>
<tr>
<td><strong>Auto igniting:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Danger of explosion:</strong></td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td><strong>Explosion limits:</strong></td>
<td></td>
</tr>
<tr>
<td>Lower:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapor pressure:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Density:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td>Relative density:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapor density:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with</strong></td>
<td></td>
</tr>
<tr>
<td>Water:</td>
<td>Insoluble.</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water):</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Viscosity:</strong></td>
<td></td>
</tr>
<tr>
<td>Dynamic:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Kinematic:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Other information</strong></td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

### 10 Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reactivity</strong></td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td><strong>Chemical stability</strong></td>
<td>Stable under normal handling and storage conditions.</td>
</tr>
<tr>
<td><strong>Thermal decomposition / conditions to be avoided:</strong></td>
<td>No decomposition if used according to specifications.</td>
</tr>
<tr>
<td><strong>Possibility of hazardous reactions:</strong></td>
<td>No dangerous reactions known.</td>
</tr>
<tr>
<td><strong>Conditions to avoid:</strong></td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td><strong>Incompatible materials:</strong></td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td><strong>Hazardous decomposition products:</strong></td>
<td>None under normal conditions of storage and use.</td>
</tr>
</tbody>
</table>
11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
    - on the skin: No irritant effect.
    - on the eye: No irritating effect.
  - Sensitization: No sensitizing effects known.
  - Additional toxicological information: No further relevant information available.

- Carcinogenic categories
  - NTP (National Toxicology Program)
    Substance is not listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    Substance is not 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: Generally not hazardous for water
  - 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

- UN-Number
  - DOT, ADR, RID, ADN, IMDG, IATA: Void

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

- Transport hazard class(es)
  - DOT, ADR, RID, ADN, IMDG, IATA: Void
Trade name: IPS e.max ZirCAD (Block/Disc)

- Packing group
  - DOT, 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 MARPOL73/78 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": Void

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
    - Section 355 (extremely hazardous substances): Substance is not listed.
    - Section 313 (Specific toxic chemical listings): Substance is not listed.
    - TSCA (Toxic Substances Control Act): Substance is not listed.
  - Proposition 65
    - Chemicals known to cause cancer: Substance is not listed.
    - Chemicals known to cause reproductive toxicity for females: Substance is not listed.
    - Chemicals known to cause reproductive toxicity for males: Substance is not listed.
    - Chemicals known to cause developmental toxicity: Substance is not listed.
  - Carcinogenic categories
    - EPA (Environmental Protection Agency): Substance is not listed.
    - TLV (Threshold Limit Value established by ACGIH): Substance is not listed.
    - NIOSH-Ca (National Institute for Occupational Safety and Health): Substance is not listed.
  - GHS label elements: Void
    - Hazard pictograms: Void
    - Signal word: Void
    - Hazard statements: Void
Trade name: IPS e.max ZirCAD (Block/Disc)

- 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 03/20/2017 / 4
- Abbreviations and acronyms:
  - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
  - ICAO: International Civil Aviation Organisation
  - 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
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health
  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit

* Data compared to the previous version altered.