1 Identification

· **Trade name**: iBOND Ceramic Primer

· **Application of the substance / the mixture**: Auxiliary for manufacture of dental prothesis

· **Product identifier**

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier**: Kulzer GmbH
  Leipziger Straße 2, 63450 Hanau (Germany)
  Tel.: +49 (0)800 4372522

· **Information department**: Tel. +1 (800) 431-1785 Fax: +1 (800) 522-1545
e-mail: customer.servicehkna@kulzer-dental.com

· **Emergency telephone number**: Emergency CONTACT (24-Hour-Number)
  GBK/Infotrac ID 105860: (domestic) 1 800 535 5053 or international (001) 352 323 3500

2 Hazard(s) identification

· **Classification of the substance or mixture**
  - Flammable Liquids - Category 2
  - Eye Irritation - Category 2A
  - Specific Target Organ Toxicity - Single Exposure - Category 3

· **Hazard pictograms**
  - GHS02
  - GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling**: propan-2-ol acetone

· **Hazard statements**
  - Highly flammable liquid and vapour.
  - Causes serious eye irritation.
  - May cause drowsiness or dizziness.

· **Precautionary statements**
  - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - Use explosion-proof [electrical/ventilating/lighting] equipment.
  - Avoid breathing dust/fume/gas/mist/vapours/spray.
  - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - Store locked up.

· **Hazard description**: Canadian Hazard Symbols
  - B2 - Flammable liquid
Trade name: iBOND Ceramic Primer

D2B - Toxic material causing other toxic effects

- Classification system
  - NFPA ratings for USA (scale 0-4)
    - Health = 1
    - Fire = 3
    - Reactivity = 0

- HMIS-Ratings (Scale 0-4)
  - Health = 1
  - Fire = 3
  - Reactivity = 0

- Other hazards -

3 Composition/information on ingredients
- Chemical characterization: Mixtures
- Description:

  - Dangerous components:
    67-63-0 propan-2-ol
      - Flammable Liquids - Category 2, H225; Eye Irritation - Category 2A, H319;
      - Specific Target Organ Toxicity - Single Exposure - Category 3, H336
      - 75-90% w/w
    67-64-1 acetone
      - Flammable Liquids - Category 2, H225; Eye Irritation - Category 2A, H319;
      - Specific Target Organ Toxicity - Single Exposure - Category 3, H336
      - 5-10% w/w

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

4 First-aid measures
- Description of first aid measures
  - After inhalation Supply fresh air; consult doctor in case of complaints.
  - After skin contact Generally the product does not irritate the skin.
  - After eye contact Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - After swallowing 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
    CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture
  Can form explosive gas-air mixtures. Formation of toxic gases is possible during heating or in case of fire.
- Advice for firefighters
  - Protective equipment: No special measures required.
  - Additional information

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
- Environmental precautions:
  Prevent seepage into sewage system, workpits and cellars. Dilute with plenty of water.
- Methods and material for containment and cleaning up:
  Absorb with liquid binding material (diatomite, universal binders, for small amounts tissues). Ensure adequate ventilation.
- Reference to other sections
  No dangerous substances are released.
  See Section 8 for information on personal protection equipment.

7 Handling and storage

- Handling
  - Precautions for safe handling Keep receptacles tightly sealed.
  - Information about protection against explosions and fires:
    Keep ignition sources away - Do not smoke. Protect against electrostatic charges.
- Conditions for safe storage, including any incompatibilities
  - Storage
    - Requirements to be met by storerooms and receptacles: Store in a cool location.
    - Information about storage in one common storage facility: Not required.
    - Further information about storage conditions:
      Store in cool, dry conditions in well sealed receptacles.
- 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:

<table>
<thead>
<tr>
<th>Compound</th>
<th>EL Short-term value</th>
<th>EL Long-term value</th>
<th>EV Short-term value</th>
<th>EV Long-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0 propan-2-ol</td>
<td>400 ppm</td>
<td>200 ppm</td>
<td>400 ppm</td>
<td>200 ppm</td>
</tr>
<tr>
<td>67-64-1 acetone</td>
<td>500 ppm</td>
<td>250 ppm</td>
<td>750 ppm</td>
<td>500 ppm</td>
</tr>
</tbody>
</table>

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures

Avoid contact with the eyes.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Breathing equipment:

Not necessary with efficient local exhaust. If exposition to vapours is possible, use breathing protective mask (filter A).

Protection of hands:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Check protective gloves prior to each use for their proper condition.

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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.

For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

- Butyl rubber, BR
- Nitrile rubber, NBR

Eye protection:

Protective goggles are recommended.
Tightly sealed goggles.

Body protection: Light weight protective clothing
9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Fluid
      - Color: Colorless
      - Odor: Alcohol-like
      - Odor threshold: Not determined.
    - pH-value: Not determined.
  - Change in condition
    - Melting point/Melting range: undetermined
    - Boiling point/Boiling range: 55 °C (131 °F)
  - Flash point: 5 °C (41 °F)
  - Flammability (solid, gaseous) Not applicable.
  - Ignition temperature: >400 °C (>752 °F)
  - Decomposition temperature: Not determined.
  - Auto igniting: Product is not selfigniting.
  - Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
  - Explosion limits:
    - Lower: 2.0 Vol %
    - Upper: 12.0 Vol %
  - Vapor pressure at 20 °C (68 °F): 48 hPa (36 mm Hg)
  - Density at 20 °C (68 °F):
    - Relative density: 0.800 g/cm³ (6.676 lbs/gal)
    - Vapor density: Not determined.
    - Evaporation rate: Not determined.
  - Solubility in / Miscibility with
    - Water: Fully miscible
  - Partition coefficient (n-octanol/water): Not determined.
  - Viscosity:
    - dynamic: Not determined.
    - kinematic: Not determined.
  - Solvent content:
    - Water: 4.0 %
    - Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity No further relevant information available.
- Possibility of hazardous reactions No dangerous reactions known
- Conditions to avoid No further relevant information available.
- Incompatible materials: No further relevant information available.
11 Toxicological information

· Information on toxicological effects
  · Acute toxicity:
    · LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>Compound</th>
<th>Oral LD50 (mg/kg)</th>
<th>Oral LC50/4h (mg/l)</th>
<th>Dermal LD50 (mg/kg)</th>
<th>Dermal LD50 (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0 propan-2-ol</td>
<td>4570</td>
<td>30</td>
<td>13400</td>
<td></td>
</tr>
<tr>
<td>67-64-1 acetone</td>
<td>5800</td>
<td></td>
<td>20000</td>
<td></td>
</tr>
</tbody>
</table>

· Primary irritant effect:
  · on the skin: No irritant effect.
  · on the eye: Irritating effect.

· Sensitization: No sensitizing effects known.

· Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
  - Irritant

· Carcinogenic categories

<table>
<thead>
<tr>
<th>Compound</th>
<th>Carcinogenic Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0 propan-2-ol</td>
<td>3</td>
</tr>
<tr>
<td>80-62-6 methyl methacrylate</td>
<td>3</td>
</tr>
<tr>
<td>102-71-6 2,2',2''-nitrilotriethanol</td>
<td>3</td>
</tr>
<tr>
<td>7647-01-0 hydrogen chloride</td>
<td>3</td>
</tr>
<tr>
<td>128-37-0 2,6-di-tert-butyl-p-cresol</td>
<td>3</td>
</tr>
</tbody>
</table>

· NTP (National Toxicology Program)
None of the ingredients is listed.

12 Ecological information

· Aquatic toxicity:

<table>
<thead>
<tr>
<th>Compound</th>
<th>EC50/72h (mg/l)</th>
<th>EC50/48h (mg/l)</th>
<th>LC50/96h (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0 propan-2-ol</td>
<td>&gt;1000</td>
<td>13299</td>
<td>1400</td>
</tr>
<tr>
<td>67-64-1 acetone</td>
<td>6100</td>
<td>5540</td>
<td></td>
</tr>
</tbody>
</table>

· Persistence and degradability No further relevant information available.
Trade name: iBOND Ceramic Primer

Behavior in environmental systems:
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.

Additional ecological information:
- General notes: Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.
- Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- UN-Number
  - DOT, TDG, IMDG, IATA: UN1993

- UN proper shipping name
  - TDG: 1993 FLAMMABLE LIQUID, N.O.S., special provision 640D (ISOPROPANOL (ISOPROPYL ALCOHOL), ACETONE)
  - IMDG, IATA: FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL (ISOPROPYL ALCOHOL), ACETONE)

- Transport hazard class(es)
  - DOT
    - Class: 3 Flammable liquids
    - Label: 3
  - TDG (Transport dangerous goods):
    - Class: 3 (F1) Flammable liquids
Trade name: iBOND Ceramic Primer

- Label
- IMDG, IATA

- Class
- Label

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

- DOT, TDG, IMDG, IATA
- Packing group
- Class 3 Flammable liquids
- Label 3

Environmental hazards:
- Marine pollutant: No

Special precautions for user:
- Danger code (Kemler): 33
- EMS Number: F-E, S-E

- Transport/Additional information:
- UN "Model Regulation": UN1993, Flammable liquids, n.o.s., special provision 640D (Isopropanol (Isopropyl alcohol), Acetone), 3, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA Section 355 (extremely hazardous substances)

- GHS label elements
  - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms

- Signal word Danger

- Hazard-determining components of labeling:
  - propan-2-ol
  - acetone

- Hazard statements
  - Highly flammable liquid and vapour.
  - Causes serious eye irritation.
  - May cause drowsiness or dizziness.

- Precautionary statements
  - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - Use explosion-proof [electrical/ventilating/lighting] equipment.
(Contd. of page 8)

Avoid breathing dust/fume/gas/mist/vapours/spray.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Store locked up.

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

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Relevant phrases
  - H225 Highly flammable liquid and vapour.
  - H319 Causes serious eye irritation.
  - H336 May cause drowsiness or dizziness.

- Date of preparation / last revision 09/11/2017 / 2

- Abbreviations and acronyms:
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - 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)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - WHMIS: Workplace Hazardous Materials Information System (Canada)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative

- * Data compared to the previous version altered.