1 Identification

- **Product identifier**
  - **Trade name:** iBOND Total Etch

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

- **Application of the substance / the mixture**
  Dental bonding material

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**
    Kulzer Australia Pty Ltd
    11 – 21 Underwood Rd
    HOMEBUSH NSW 2140
    Australia
    Tel: +61 (0) 2 9764 5222

  - **Informing department:** see above
  - **Emergency telephone number:**
    Poison Information Number: Australia 13 11 26 & New Zealand 0800 764 766

2 Hazard(s) Identification

- **Classification of the substance or mixture**
  Flam. Liq. 3  H226  Flammable liquid and vapour.
  Skin Irrit. 2  H315  Causes skin irritation.
  Eye Dam. 1   H318  Causes serious eye damage.
  Resp. Sens. 1 H334  May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  Skin Sens. 1  H317  May cause an allergic skin reaction.

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

  - **Hazard pictograms**
    GHS02  GHS05  GHS08

  - **Signal word** Danger

  - **Hazard-determining components of labelling:**
    2-hydroxyethyl methacrylate
    glutaral
    4-methacryloxyethyltrimellitic acid anhydride

  - **Hazard statements**
    Flammable liquid and vapour.
    Causes skin irritation.
    Causes serious eye damage.
    May cause allergy or asthma symptoms or breathing difficulties if inhaled.
    May cause an allergic skin reaction.

- **Precautionary statements**
  Keep away from heat/sparks/open flames/hot surfaces. No smoking.
  Use explosion-proof electrical/ventilating/lighting equipment.
  In case of inadequate ventilation wear respiratory protection.
Trade name: iBOND Total Etch

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

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

3 Composition and Information on Ingredients
- Chemical characterisation: Mixtures
  - Description:
    - Dangerous components:
      - CAS: 64-17-5 EINECS: 200-578-6 ethanol 25-50%
      - CAS: 868-77-9 EINECS: 212-782-2 2-hydroxyethyl methacrylate 10-25%
        - Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317
        - Poly(methacrylic-oligo-acrylic acid) 0-5%
        - Eye Irrit. 2A, H319
      - CAS: 70293-55-9 EINECS: 231-545-4 4-methacryloxyethyltrimellitic acid anhydride 0-5%
        - Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317
      - CAS: 112926-00-8 EINECS: 231-545-4 amorphous silica 0-5%
      - CAS: 111-30-8 EINECS: 203-856-5 glutaral 0-5%
        - Acute Tox. 3, H301; Acute Tox. 3, H331; Resp. Sens. 1, H334; Skin Corr. 1B, H314; Skin Sens. 1, H317; Flam. Liq. 4, H227
  - 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 symptoms.
  - After skin contact: Instantly wash with water and soap and rinse thoroughly.
  - After eye contact: Rinse opened eye for several minutes under running water. Then consult doctor.
  - After swallowing: Rinse out mouth and then drink plenty of water. Instantly call for doctor. In case of persistent symptoms 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 jet. Fight larger fires with water jet or alcohol-resistant foam.
  - For safety reasons unsuitable extinguishing agents: Water with a full water jet.

- **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: Put on breathing apparatus.
  - Additional information

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
  - Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions**
  - Do not allow to enter the ground/soil.
  - No special measures required.

- **Methods and material for containment and cleaning up**
  - Absorb with liquid-binding material (diatomite, universal binders, for small amounts tissues).
  - Send for recovery or disposal in suitable containers.

- **Reference to other sections**
  - See Section 13 for information on disposal.
  - See Section 8 for information on personal protection equipment.

7 Handling and Storage

- **Handling**
  - Precautions for safe handling
    - Keep containers tightly sealed.
    - Ensure good ventilation/exhaustion at the workplace.
    - Prevent formation of aerosols.
  - 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 containers: No special requirements.
    - Information about storage in one common storage facility: Not required.
    - Further information about storage conditions: Store cool (not above 25 °C).
  - Specific end use(s) No further relevant information available.

8 Exposure controls and personal protection

- **Additional information about design of technical systems**
  - No further data; see item 7.
Control parameters

Components with critical values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Substance</th>
<th>NES (Australia)</th>
<th>PEL (USA)</th>
<th>REL (USA)</th>
<th>TLV (USA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5 ethanol</td>
<td>1880 mg/m³, 1000 ppm</td>
<td>1900 mg/m³, 1000 ppm</td>
<td>1900 mg/m³, 1000 ppm</td>
<td>Short-term value: 1880 mg/m³, 1000 ppm</td>
</tr>
<tr>
<td>111-30-8 glutaral</td>
<td>0.41* mg/m³, 0.1 ppm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>112926-00-8 amorphous silica</td>
<td>10 mg/m³</td>
<td>20mppcf or 80mg/m³ /%SiO2 mg/m³</td>
<td>6 mg/m³</td>
<td>TLV withdrawn</td>
</tr>
</tbody>
</table>

DNELs

<table>
<thead>
<tr>
<th>Substance</th>
<th>Oral ge.pop., l.te, syst.</th>
<th>Dermal ge.pop., acu., local</th>
<th>Inhalative ge.pop., l.te, syst.</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5 ethanol</td>
<td>87 mg/Kg (nd)</td>
<td>343 mg/Kg/d (nd)</td>
<td>206 mg/Kg/d (nd)</td>
</tr>
<tr>
<td></td>
<td>1900 mg/m³ (nd)</td>
<td>1900 mg/m³ (nd)</td>
<td>114 mg/m³ (nd)</td>
</tr>
</tbody>
</table>

PNECs

<table>
<thead>
<tr>
<th>Substance</th>
<th>freshwater</th>
<th>marine water</th>
<th>STP</th>
<th>sediment, dw, fre.wat.</th>
<th>soil, dw</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5 ethanol</td>
<td>0.96 mg/l (nd)</td>
<td>0.79 mg/l (nd)</td>
<td>580 mg/l (nd)</td>
<td>3.6 mg/Kg (nd)</td>
<td>0.63 mg/Kg (nd)</td>
</tr>
</tbody>
</table>

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

Exposure controls

General protective and hygienic measures

- Keep away from foodstuffs, beverages and food.
- Instantly remove any soiled and impregnated garments.
- Wash hands during breaks and at the end of the work.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the eyes and skin.

Breathing equipment: Breathing protection recommended.
Trade name: iBOND Total Etch

- **Protection of hands:**
  If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization.
  Solvent resistant gloves
  Check protective gloves prior to each use for their proper condition.
  recommended
- **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 trough 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:**
  Tightly sealed safety glasses.
- **Body protection:**
  Light weight protective clothing

### 9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
  - **Appearance:**
    - Form: Fluid
  - **Colour:** Yellowish
  - **Smell:** Characteristic
  - **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
  - **Melting point/freezing point:** Not determined
  - **Initial boiling point and boiling range:** Not determined
- **Flash point:** 24 °C
- **Inflammability (solid, gaseous)** Not applicable.
- **Ignition temperature:** 425 °C
- **Decomposition temperature:** Not determined.
- **Self-inflammability:** Product is not selfigniting.
- **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures is possible.
- **Critical values for explosion:**
  - **Lower:** 3,5 Vol %
  - **Upper:** 15,0 Vol %
- **Steam pressure at 20 °C:** 57 hPa
- **Density at 20 °C**
  - **Relative density** Not determined.
  - **Vapour density** Not determined.
Trade name: iBOND Total Etch

- Evaporation rate: Not determined.
- Solubility in / Miscibility with Water: Not miscible or difficult to mix
- Partition coefficient: n-octanol/water: Not determined.
- Viscosity:
  - dynamic: Not determined.
  - kinematic: Not determined.
- Other information: No further relevant information available.

10 Stability and Reactivity

- Reactivity: No further relevant information available.
- Chemical stability
  - Conditions to be avoided: No decomposition if used and stored according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known
- Conditions to avoid: No further relevant information available.
- Incompatible materials: None
- Hazardous decomposition products: None
- Additional information: -

11 Toxicological Information

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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Oral LD50</th>
<th>Inhalative LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5 ethanol</td>
<td>6200 mg/kg (rat)</td>
<td>95.6 mg/l (rat)</td>
</tr>
<tr>
<td>41137-60-4 diurethandimethacrylate</td>
<td>LD50 &gt;5000 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>868-77-9 2-hydroxyethyl methacrylate</td>
<td>LD50 &gt;5000 mg/kg (can)</td>
<td></td>
</tr>
<tr>
<td>Poly(methacrylic-oligo-acrylic acid)</td>
<td>LD50 &gt;5000 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>70293-55-9 4-methacryloyxyethyltrimellitic acid anhydride</td>
<td>LD50 &gt; 2000 mg/kg (mouse)</td>
<td></td>
</tr>
<tr>
<td>72869-88-4 diurethandimethacrylate</td>
<td>LD50 &gt;5000 mg/kg (rat)</td>
<td></td>
</tr>
</tbody>
</table>

- Primary irritant effect:
  - Skin corrosion/irritation: Irritant for skin and mucous membranes.
  - Serious eye damage/irritation: Strong irritant with the danger of severe eye injury.
  - Respiratory or skin sensitisation: Sensitization possible by inhalation.
  - Sensitization possible by skin contact.

(Contd. on page 7)
Trade name: iBOND Total Etch

12 Ecological Information

- Additional toxicological information: Harmful

Aquatic toxicity:
- 868-77-9 2-hydroxyethyl methacrylate
  LC50/96h 227 mg/l (fish)
- 72869-86-4 diurethandimethacrylate
  LC50/96h 10.1 mg/l (fish)

- Persistence and degradability: No further relevant information available.
- Behaviour in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes: Avoid transfer into the environment.
- 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.

14 Transport information

- UN-Number
  - ADG, IMDG, IATA:
    UN1170
- UN proper shipping name
  - ADG:
    1170 ETHANOL (ETHYL ALCOHOL)
  - IMDG:
    ETHANOL (ETHYL ALCOHOL)
  - IATA:
    Ethanol
- Transport hazard class(es)
  - ADG
    - Class: 3 (F1) Flammable liquids.
### Trade name: iBOND Total Etch

<table>
<thead>
<tr>
<th>Label</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG, IATA</td>
<td></td>
</tr>
</tbody>
</table>

#### Class
- 3 Flammable liquids.

#### Packing group
- ADG, IMDG, IATA
- III

#### Environmental hazards:
- Marine pollutant: No

#### Special precautions for user
- Warning: Flammable liquids.
- Kemler Number: 30
- EMS Number: F-E,S-D
- Stowage Category: A

#### Transport in bulk according to Annex II of Marpol and the IBC Code
- Not applicable.

#### Transport/Additional information:
- ADG
  - Limited quantities (LQ): 5L
  - Excepted quantities (EQ): Code: E1
  - Maximum net quantity per inner packaging: 30 ml
  - Maximum net quantity per outer packaging: 1000 ml

- IMDG
  - Limited quantities (LQ): 5L
  - Excepted quantities (EQ): Code: E1
  - Maximum net quantity per inner packaging: 30 ml
  - Maximum net quantity per outer packaging: 1000 ml

#### UN "Model Regulation":
- UN1170, ETHANOL (ETHYL ALCOHOL), 3, III

### 15 Regulatory information
- 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.
Trade name: iBOND Total Etch

- **H227** Combustible liquid.
- **H301** Toxic if swallowed.
- **H314** Causes severe skin burns and eye damage.
- **H315** Causes skin irritation.
- **H317** May cause an allergic skin reaction.
- **H319** Causes serious eye irritation.
- **H331** Toxic if inhaled.
- **H334** May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**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)
- DNEL: Derived No-Effect Level (REACH)
- PNEC: Predicted No-Effect Concentration (REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Flammable liquids – Category 2
- Flam. Liq. 3: Flammable liquids – Category 3
- Flam. Liq. 4: Flammable liquids – Category 4
- Acute Tox. 3: Acute toxicity – Category 3
- Skin Corr. 1B: Skin corrosion/irritation – Category 1B
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
- Resp. Sens. 1: Respiratory sensitisation – Category 1
- Skin Sens. 1: Skin sensitisation – Category 1

* Data compared to the previous version altered.