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

1.1 Product identifier
   - Trade name: iBond Self Etch

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: Kulzer GmbH
     Leipziger Straße 2, 63450 Hanau (Germany) Tel.: +49 (0)800 4372522
   - Informing department: E-Mail: msds@kulzer-dental.com

1.4 Emergency telephone number: Emergency CONTACT (24-Hour-Number): +49 (0)6132-84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   - Classification according to Regulation (EC) No 1272/2008
     Flam. Liq. 2 H225 Highly flammable liquid and vapour.
     Skin Irrit. 2 H315 Causes skin irritation.
     Eye Irrit. 2 H319 Causes serious eye irritation.
     Skin Sens. 1 H317 May cause an allergic skin reaction.
     STOT SE 3 H336 May cause drowsiness or dizziness.

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
       - GHS02
       - GHS07

   - Signal word Danger

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

   - Hazard statements
     H225 Highly flammable liquid and vapour.
     H315 Causes skin irritation.
     H319 Causes serious eye irritation.
     H317 May cause an allergic skin reaction.
     H336 May cause drowsiness or dizziness.

   - Precautionary statements
     P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
     P241 Use explosion-proof electrical/ventilating/lighting/equipment.
Trade name: IBond Self Etch

- **P303+P361+P353** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- **P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **P321** Specific treatment (see on this label).
- **P405** Store locked up.

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

**SECTION 3: Composition/information on ingredients**

- **3.2 Chemical characterisation: Mixtures**
  - **Description:** Product based on methacrylates

  - **Dangerous components:**

    | CAS         | Chemical Name                              | Concentration |
    |-------------|--------------------------------------------|---------------|
    | 67-64-1     | acetone                                    | 25-50%        |
    | 200-662-2   | Flam. Liq. 2, H225; Eye Irrit. 2, H319;    |               |
    |             | STOT SE 3, H336                            |               |
    | 70293-55-9  | 4-methacryloxyethyltrimellitic acid anhydride | 10-25%        |
    |             | Skin Irrit. 2, H315; Eye Irrit. 2, H319;   |               |
    |             | Skin Sens. 1, H317                         |               |
    | 868-77-9    | 2-hydroxyethyl methacrylate                | < 1%          |
    | 212-782-2   | Skin Irrit. 2, H315; Eye Irrit. 2, H319;   |               |
    |             | Skin Sens. 1, H317                         |               |

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

**SECTION 4: First aid measures**

- **4.1 Description of first aid measures**
  - **After inhalation** Supply fresh air and call for doctor for safety reasons.
  - **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.
    In case of persistent symptoms consult doctor.

- **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**
    CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

- **5.2 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.
Safety data sheet
according to 1907/2006/EC, Article 31

Trade name: iBond Self Etch

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

SECTION 6: Accidental release measures
- 6.1 Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
- 6.2 Environmental precautions: Prevent material from reaching sewage system, holes and cellars.
- 6.3 Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (diatomite, universal binders, for small amounts tissues).
  Ensure adequate ventilation.
  Send for recovery or disposal in suitable containers.
- 6.4 Reference to other sections
  See Section 13 for information on disposal.
  See Section 8 for information on personal protection equipment.

SECTION 7: Handling and storage
- 7.1 Precautions for safe handling
  Keep containers tightly sealed.
  Ensure good ventilation/exhaustion at the workplace.
  Information about protection against explosions and fires:
    Keep ignition sources away - Do not smoke.
    Protect against electrostatic charges.
- 7.2 Conditions for safe storage, including any incompatibilities
  Storage
    Requirements to be met by storerooms and containers: Store in cool location.
    Information about storage in one common storage facility: Not required.
    Further information about storage conditions:
      Keep receptacle tightly sealed.
      Protect from the effects of light.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection
- Additional information about design of technical systems: No further data; see item 7.
- 8.1 Control parameters
  Components with critical values that require monitoring at the workplace:
  67-64-1 acetone
  WEL Short-term value: 3620 mg/m³, 1500 ppm
  Long-term value: 1210 mg/m³, 500 ppm
**8.2 Exposure controls**

**Personal protective equipment**

- **General protective and hygienic measures**
  Avoid contact with the eyes.
  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.
  Avoid contact with the eyes and skin.

- **Breathing equipment:** Not required.

- **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
  If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization.
  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 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
**SECTION 9: Physical and chemical properties**

<table>
<thead>
<tr>
<th><strong>9.1 Information on basic physical and chemical properties</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td>· <strong>Appearance:</strong></td>
<td>Fluid</td>
</tr>
<tr>
<td>· <strong>Form:</strong></td>
<td>Fluid</td>
</tr>
<tr>
<td>· <strong>Colour:</strong></td>
<td>Yellowish</td>
</tr>
<tr>
<td>· <strong>Smell:</strong></td>
<td>Characteristic</td>
</tr>
<tr>
<td>· <strong>Odour threshold:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td>· <strong>pH-value:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td>· <strong>Change in condition</strong></td>
<td></td>
</tr>
<tr>
<td>· <strong>Melting point/Melting range:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td>· <strong>Boiling point/Boiling range:</strong></td>
<td>55 °C</td>
</tr>
<tr>
<td>· <strong>Flash point:</strong></td>
<td>-19 °C</td>
</tr>
<tr>
<td>· <strong>Inflammability (solid, gaseous)</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· <strong>Ignition temperature:</strong></td>
<td>465 °C</td>
</tr>
<tr>
<td>· <strong>Decomposition temperature:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td>· <strong>Self-inflammability:</strong></td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>· <strong>Danger of explosion:</strong></td>
<td>Product is not explosive. However, formation of explosive air/vapour mixtures is possible.</td>
</tr>
<tr>
<td>· <strong>Critical values for explosion:</strong></td>
<td></td>
</tr>
<tr>
<td>· <strong>Lower:</strong></td>
<td>2.6 Vol %</td>
</tr>
<tr>
<td>· <strong>Upper:</strong></td>
<td>13.0 Vol %</td>
</tr>
<tr>
<td>· <strong>Steam pressure at 20 °C:</strong></td>
<td>247 hPa</td>
</tr>
<tr>
<td>· <strong>Density at 20 °C</strong></td>
<td>1 g/cm³</td>
</tr>
<tr>
<td>· <strong>Relative density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td>· <strong>Vapour density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td>· <strong>Evaporation rate</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td>· <strong>Solubility in / Miscibility with</strong></td>
<td></td>
</tr>
<tr>
<td>· <strong>Water:</strong></td>
<td>Partly miscible</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>· <strong>dynamic:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td>· <strong>kinematic:</strong></td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

**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
- Conditions to be avoided: Protect from heat and direct sunlight.

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity
  Based on available data, the classification criteria are not met.

  LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-64-1 acetone</td>
<td>5800 mg/kg (rat)</td>
<td>20000 mg/kg (rabbit)</td>
</tr>
<tr>
<td>41137-60-4 diurethandimethacrylate</td>
<td>&gt;5000 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>70293-55-9 4-methacryloyxethytrimellitic acid anhydride</td>
<td>&gt;2000 mg/kg (mouse)</td>
<td>&gt;2000 mg/kg (mouse)</td>
</tr>
<tr>
<td>868-77-9 2-hydroxyethyl methacrylate</td>
<td>5564 mg/kg (rat)</td>
<td>&gt;3000 mg/kg (can)</td>
</tr>
</tbody>
</table>

- Primary irritant effect:
  - Skin corrosion/irritation
    Causes skin irritation.
  - Serious eye damage/irritation
    Causes serious eye irritation.

- Respiratory or skin sensitisation
May cause an allergic skin reaction.

- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
  - Germ cell mutagenicity
    Based on available data, the classification criteria are not met.
  - Carcinogenicity
    Based on available data, the classification criteria are not met.
  - Reproductive toxicity
    Based on available data, the classification criteria are not met.

- STOT-single exposure
May cause drowsiness or dizziness.

- STOT-repeated exposure
Based on available data, the classification criteria are not met.

- Aspiration hazard
Based on available data, the classification criteria are not met.

(Contd. on page 7)
SECTION 12: Ecological information

12.1 Toxicity

- Aquatic toxicity:
  - 67-64-1 acetone
    - EC50/48h: 6100 mg/l (daphnia)
    - LC50/96h: 5540 mg/l (fish)
  - 868-77-9 2-hydroxyethyl methacrylate
    - LC50/96h: 227 mg/l (fish)

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: Do not allow product to reach ground water, water bodies 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
  Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
  Disposal must be made according to official regulations.

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

SECTION 14: Transport information

14.1 UN-Number
- ADR, IMDG, IATA: 1090

14.2 UN proper shipping name
- ADR: 1090 ACETONE, solution
- IMDG, IATA: ACETONE, solution
Trade name: iBond Self Etch

14.3 Transport hazard class(es)
- ADR
  - Class 3 (F1) Flammable liquids.
  - Label 3

- IMDG, IATA
  - Class 3 Flammable liquids.
  - Label 3

14.4 Packing group
- ADR, IMDG, IATA II

14.5 Environmental hazards:
- Marine pollutant: No

14.6 Special precautions for user
- Warning: Flammable liquids.
  - Kemler Number: 33
  - EMS Number: F-E,S-D

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

Transport/Additional information:
- ADR
  - Limited quantities (LQ) 1L
  - Transport category 2
  - Tunnel restriction code D/E

- UN "Model Regulation": UN1090, ACETONE, solution, 3, II
SECTION 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.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

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)
- 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
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

* Data compared to the previous version altered.