1 Identification

- **Product identifier**
  - **Trade name:** iBond Self Etch

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

- **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**
  - Flam. Liq. 2  H225  Highly flammable liquid and vapor.
  - Skin Irrit. 2  H315  Causes skin irritation.
  - Eye Irrit. 2A  H319  Causes serious eye irritation.
  - Skin Sens. 1  H317  May cause an allergic skin reaction.
  - STOT SE 3  H336  May cause drowsiness or dizziness.

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

- **Hazard pictograms**
  - GHS02
  - GHS07

- **Signal word** Danger

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

- **Hazard statements**
  - Highly flammable liquid and vapor.
  - Causes skin irritation.
  - Causes serious eye irritation.
  - May cause an allergic skin reaction.
  - May cause drowsiness or dizziness.

- **Precautionary statements**
  - Keep away from heat/sparks/open flames/hot surfaces.  No smoking.
  - Use explosion-proof electrical/ventilating/lighting/equipment.

(Contd. on page 2)
Trade name: iBond Self Etch

If on skin (or hair): 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. Specific treatment (see on this label). Store locked up.

· Classification system
  · NFPA ratings for USA (scale 0-4)
    ![NFPA Rating 1, 3, 0]
    Health = 1
    Fire = 3
    Reactivity = 0

· HMIS-Ratings (Scale 0-4)

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FIRE</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

Health = 1
Fire = 3
Reactivity = 0

· Results of PBT and vPvB assessment
  · PBT: Not applicable.
  · vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures
  · Description: Composition based on methacrylates

· Dangerous components:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-64-1 acetone</td>
<td>25-50%</td>
</tr>
<tr>
<td>70293-55-9 4-methacryloxyethyltrimellitic acid anhydride</td>
<td>10-25%</td>
</tr>
<tr>
<td>868-77-9 2-hydroxyethyl methacrylate</td>
<td>&lt; 1%</td>
</tr>
</tbody>
</table>

· 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 and to be sure call for a doctor.
  · After skin contact Immediately wash with water and soap and rinse thoroughly.
  · After eye contact Rinse opened eye for several minutes under running water. Then 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.
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: Do not inhale explosion gases or combustion gases.
  - 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.

- **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 receptacles.

- **Reference to other sections**
  - See Section 13 for disposal information.
  - 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:
      - Keep receptacle tightly sealed.
      - Protect from exposure to the light.
Trade name: iBond Self Etch

- 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>Substance</th>
<th>PEL</th>
<th>REL</th>
<th>TLV Short-term value</th>
<th>TLV Long-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-64-1 acetone</td>
<td>2400 mg/m³, 1000 ppm</td>
<td>590 mg/m³, 250 ppm</td>
<td>1782 mg/m³, 750 ppm</td>
<td>1188 mg/m³, 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 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 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: Safety glasses

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Safety Data Sheet
acc. to OSHA HCS

Printing date 06/03/2017
Reviewed on 06/03/2017

Trade name: iBond Self Etch

· Body protection: Light weight protective clothing

9 Physical and chemical properties

· Information on basic physical and chemical properties
  · General Information
    · Appearance: Fluid
      · Form: Yellowish
      · Color: Characteristic
      · Odor: Not determined.
    · 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: -19 °C (-2 °F)

  · Flammability (solid, gaseous) Not applicable.

  · Ignition temperature: 465 °C (869 °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: 2.6 Vol %
    · Upper: 13.0 Vol %

  · Vapor pressure at 20 °C (68 °F): 247 hPa (185 mm Hg)

  · Density at 20 °C (68 °F):
    · Relative density: Not determined.
    · Vapor density: Not determined.
    · Evaporation rate: Not determined.

  · Solubility in / Miscibility with
    · Water: Partly miscible

  · 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.
11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:

<table>
<thead>
<tr>
<th>LD/LC50 values that are relevant for classification:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>67-64-1 acetone</strong></td>
</tr>
<tr>
<td>Oral: LD50 5800 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal: LD50 20000 mg/kg (rabbit)</td>
</tr>
<tr>
<td><strong>41137-60-4 diurethandimethacrylate</strong></td>
</tr>
<tr>
<td>Oral: LD50 &gt;5000 mg/kg (rat)</td>
</tr>
<tr>
<td><strong>70293-55-9 4-methacryloxyethyltrimellitic acid anhydride</strong></td>
</tr>
<tr>
<td>Oral: LD50 &gt; 2000 mg/kg (mouse)</td>
</tr>
<tr>
<td>Dermal: LD50 &gt; 2000 mg/kg (mouse)</td>
</tr>
<tr>
<td><strong>868-77-9 2-hydroxyethyl methacrylate</strong></td>
</tr>
<tr>
<td>Oral: LD50 5564 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal: LD50 &gt;3000 mg/kg (can)</td>
</tr>
</tbody>
</table>

- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: Irritating effect.
  - Sensitization: Sensitization possible through skin contact.

- Additional toxicological information: Irritant

- Carcinogenic categories

  - IARC (International Agency for Research on Cancer)
    None of the ingredients is listed.
  - NTP (National Toxicology Program)
    None of the ingredients is listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    None of the ingredients is listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity:

<table>
<thead>
<tr>
<th><strong>67-64-1 acetone</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50/48h 6100 mg/l (daphnia)</td>
</tr>
<tr>
<td>LC50/96h 5540 mg/l (fish)</td>
</tr>
</tbody>
</table>
13 Disposal considerations

- **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 cleansing agent**: Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**
  - DOT: UN1090
  - ADR, IMDG, IATA: 1090

- **UN proper shipping name**
  - ADR: 1090 ACETONE, solution
  - IMDG, IATA: ACETONE, solution

- **Transport hazard class(es)**
  - DOT: 3 Flammable liquids
Trade name: iBond Self Etch

- Label
  - ADR
  - Class 3 (F1) Flammable liquids
  - Label

- IMDG, IATA
  - Class 3 Flammable liquids
  - Label

- Packing group
  - DOT, ADR, IMDG, IATA II

- Environmental hazards:
  - Marine pollutant: No

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

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

- Transport/Additional information:
  - -

- UN "Model Regulation": UN1090, Acetone, solution, 3, II

15 Regulatory information

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

None of the ingredients is listed.

- TSCA (Toxic Substances Control Act) Medical devices are exempted from TSCA.

- Cancerogenity categories

- TLV (Threshold Limit Value established by ACGIH)
  - 67-64-1 acetone

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

(Contd. of page 7)
Trade name: iBond Self Etch

- Hazard pictograms
  - GHS02
  - GHS07

- Signal word Danger

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

- Hazard statements
  - Highly flammable liquid and vapor.
  - Causes skin irritation.
  - Causes serious eye irritation.
  - May cause an allergic skin reaction.
  - May cause drowsiness or dizziness.

- Precautionary statements
  - Keep away from heat/sparks/open flames/hot surfaces. No smoking.
  - Use explosion-proof electrical/ventilating/lighting/equipment.
  - If on skin (or hair): 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.
  - Specific treatment (see on this label).
  - Store locked up.

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

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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 vapor.
  - H315 Causes skin irritation.
  - H317 May cause an allergic skin reaction.
  - H319 Causes serious eye irritation.
  - H336 May cause drowsiness or dizziness.

- Date of preparation / last revision 06/03/2017 / 2

- 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
  - 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
  - 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)
  - LC50: Lethal concentration, 50 percent

(Contd. on page 10)
**Trade name:** iBond Self Etch

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50</td>
<td>Lethal dose, 50 percent</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>REL</td>
<td>Recommended Exposure Limit</td>
</tr>
<tr>
<td>Flam. Liq. 2</td>
<td>Flammable liquids – Category 2</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation – Category 2</td>
</tr>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation – Category 2A</td>
</tr>
<tr>
<td>Skin Sens. 1</td>
<td>Skin sensitisation – Category 1</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity (single exposure) – Category 3</td>
</tr>
</tbody>
</table>

* Data compared to the previous version altered.