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

· Product identifier
  · Trade name: iBond Universal

· 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:
    Heraeus Kulzer Australia Pty Ltd
    Unit 32
    11 – 21 Underwood Rd
    HOMEBUSH NSW 2140
    Australia   Tel:  +61 (0) 2 9764 5222

  · Informing department: see above

  · Emergency telephone number: Emergency contact number: 13 11 26 (24 hours)

2 Hazards identification

· Classification of the substance or mixture
  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.

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

    · Hazard pictograms
      GHS02  GHS07

    · Signal word Danger

    · Hazard-determining components of labelling:
      4-methacryloxyethyltrimellitic acid anhydride

    · Hazard statements
      Highly flammable liquid and vapour.
      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): 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.
      Specific treatment (see on this label).

(Contd. on page 2)
Store locked up.

**Other hazards**

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

### 3 Composition/information on ingredients

- **Chemical characterisation**: Mixtures
- **Description**: -

**Dangerous components**:

<table>
<thead>
<tr>
<th>CAS: 67-64-1</th>
<th>acetone</th>
<th>Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336</th>
<th>25-50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 200-662-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 70293-55-9</td>
<td>4-methacryloxyethyltrimellitic acid anhydride</td>
<td>Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317</td>
<td>10-25%</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 call for doctor for safety reasons.
  - **After skin contact**: If skin irritation continues, consult a doctor.
  - **After eye contact**: Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
  - **After swallowing**: Rinse out mouth and then drink plenty of water.
  - **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 Firefighting 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**: No special measures required.
  - **Additional information**
    - -

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**: Wear protective equipment. Keep unprotected persons away.
Trade name: iBond Universal

7 Handling and storage

- Handling
  - Precautions for safe handling: Keep containers 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 containers: Store in cool location.
    - Further information about storage in one common storage facility: Not required.

Exposure controls/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:
    - 67-64-1 acetone
      - NES (Australia): Short-term value: 2375 mg/m³, 1000 ppm, Long-term value: 1185 mg/m³, 500 ppm
      - PEL (USA): 2400 mg/m³, 1000 ppm
      - REL (USA): 590 mg/m³, 250 ppm
      - TLV (USA): Short-term value: (1782) NIC-1187 mg/m³, (750) NIC-500 ppm, Long-term value: (1188) NIC-475 mg/m³, (500) NIC-200 ppm

- DNELs
  - 67-64-1 acetone
    - Oral: worker profess., acute, syst. 62 mg/Kg (nd)
    - Dermal: worker profess., l.te., syst. 2420 mg/Kg/d (nd)
    - Inhalative: worker profess., l.te., syst. 1210 mg/m³ (nd)
    - ge.pop., l.te., syst. 200 mg/m³ (nd)
Trade name: iBond Universal

<table>
<thead>
<tr>
<th>· PNECs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>67-64-1 acetone</strong></td>
</tr>
<tr>
<td>freshwater</td>
</tr>
<tr>
<td>marine water</td>
</tr>
<tr>
<td>STP</td>
</tr>
<tr>
<td>sedim., dw, fre.wat.</td>
</tr>
<tr>
<td>sedim., dw, mar.wat.</td>
</tr>
<tr>
<td>soil,dw</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· Ingredients with biological limit values:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>67-64-1 acetone</strong></td>
</tr>
<tr>
<td>BEI (USA)</td>
</tr>
<tr>
<td>Acetone (nonspecific)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>· Exposure controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Personal protective equipment</td>
</tr>
<tr>
<td>· General protective and hygienic measures</td>
</tr>
<tr>
<td>Avoid contact with the eyes.</td>
</tr>
<tr>
<td>Keep away from foodstuffs, beverages and food.</td>
</tr>
<tr>
<td>Instantly remove any soiled and impregnated garments.</td>
</tr>
<tr>
<td>Wash hands during breaks and at the end of the work.</td>
</tr>
<tr>
<td>Avoid contact with the eyes and skin.</td>
</tr>
<tr>
<td>· Breathing equipment:</td>
</tr>
<tr>
<td>· Protection of hands:</td>
</tr>
<tr>
<td>The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.</td>
</tr>
<tr>
<td>Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation</td>
</tr>
<tr>
<td>If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization.</td>
</tr>
<tr>
<td>Check protective gloves prior to each use for their proper condition.</td>
</tr>
<tr>
<td>recommended</td>
</tr>
<tr>
<td>· Material of gloves</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>· Penetration time of glove material</td>
</tr>
<tr>
<td>The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.</td>
</tr>
<tr>
<td>· For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:</td>
</tr>
<tr>
<td>Butyl rubber, BR</td>
</tr>
<tr>
<td>Nitrile rubber, NBR</td>
</tr>
<tr>
<td>· Eye protection:</td>
</tr>
<tr>
<td>· Body protection:</td>
</tr>
</tbody>
</table>

(Contd. on page 5)
9 Physical and chemical properties

· Information on basic physical and chemical properties
  · General Information
    · Appearance:
      · Form: Liquid
      · Colour: Clear
    · Smell: Characteristic
    · Odour threshold: Not determined.
  · pH-value: Not determined.
  · Change in condition
    · Melting point/Melting range: Not determined
    · Boiling point/Boiling range: Not determined
  · Flash point: -19 °C
  · Inflammability (solid, gaseous) Not applicable.
  · Ignition temperature: Not determined.
  · Decomposition temperature: Not determined.
  · Self-inflammability: Product is not selfigniting.
  · Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures is possible.
  · Critical values for explosion:
    · Lower: Not determined.
    · Upper: Not determined.
  · Steam pressure: Not determined.
  · Density
    · Relative density Not determined
    · Vapour 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.
  · Solvent content:
    · Water: 19.0 %
  · Solids content: 19.1 %
  · Other information No further relevant information available.

10 Stability and reactivity

· Reactivity: No further relevant information available.
· Chemical stability
  · Conditions to be avoided: Protect from heat and direct sunlight.
  · Possibility of hazardous reactions: No dangerous reactions known
  · Conditions to avoid: No further relevant information available.
Trade name: iBond Universal

11 Toxicological information

- Information on toxicological effects
  - Acute toxicity
    - LD/LC50 values that are relevant for classification:
      
      | Compound                        | Oral LD50  | Oral LC50  | Dermal LD50 | Dermal LC50 |
      |--------------------------------|------------|------------|-------------|-------------|
      | 67-64-1 Acetone                 | >5000 mg/kg (rat) | >5000 mg/kg (rat) | >20000 mg/kg (rabbit) | >20000 mg/kg (rabbit) |
      | 41137-60-4 Diurethandimethacrylate | >2000 mg/kg (mouse) | >2000 mg/kg (mouse) | >2000 mg/kg (mouse) | >2000 mg/kg (mouse) |
      | 70293-55-9 4-Methacryloxyethyltrimellitic Acid Anhydride | >2000 mg/kg (mouse) | >2000 mg/kg (mouse) | >2000 mg/kg (mouse) | >2000 mg/kg (mouse) |

- Primary irritant effect:
  - Skin corrosion/irritation: No irritant effect.
  - Serious eye damage/irritation: Irritant effect.
  - Respiratory or skin sensitisation: Sensitization possible by skin contact.

- Additional toxicological information: Irritant

12 Ecological information

- Toxicity
  - Aquatic toxicity:
    - 67-64-1 Acetone
      - EC50/48h: 6100 mg/l (daphnia)
      - LC50/96h: 5540 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:
    - Do not allow product to reach ground water, water bodies or sewage system.
    - Danger to drinking water if even small quantities leak into soil.

- 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
    - Disposal must be made according to official regulations.
Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 11.09.2017
Revision: 11.09.2017
Version number 3

Trade name: iBond Universal

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
    - UN1090

- UN proper shipping name
  - ADG
    - 1090 ACETONE, mixture
  - IMDG, IATA
    - ACETONE, mixture

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

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

- Packing group
  - ADG, IMDG, IATA
    - II

- Environmental hazards:
  - Marine pollutant: No

- Special precautions for user
  - Kemler Number: 33
  - EMS Number: F-E, S-D

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

- Transport/Additional information:

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

- UN "Model Regulation":
  - UN1090, ACETONE, mixture, 3, II

(Contd. of page 6)

(Contd. on page 8)
15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

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

· Hazard pictograms

GHS02  GHS07

· Signal word Danger

· Hazard-determining components of labelling:
4-methacryloxyethyltrimellitic acid anhydride

· Hazard statements
Highly flammable liquid and vapour.
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): 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.
Specific treatment (see on this label).
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.
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
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
Trade name: iBond Universal

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.