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

* Product identifier
  · Trade name: Meliodent Rapid Repair Liquid
  · Relevant identified uses of the substance or mixture and uses advised against
    No further relevant information available.
    · Application of the substance / the mixture Manufacture of dental prothesis

* 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 Classification of the substance or mixture

· Flam. Liq. 2 H225 Highly flammable liquid and vapour.
· Skin Irrit. 2 H315 Causes skin irritation.
· Skin Sens. 1 H317 May cause an allergic skin reaction.
· STOT SE 3 H335 May cause respiratory irritation.

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:
  methyl methacrylate
  N,N-dimethyl-p-toluidine
  2-(2H-Benzotriazol-2-yl)-4-methylphenol

· Hazard statements
  Highly flammable liquid and vapour.
  Causes skin irritation.
  May cause an allergic skin reaction.
  May cause respiratory irritation.

· Precautionary statements
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  Do not breathe dust/gas/mist/vapours/spray.
**Safety data sheet**  
**according to 1907/2006/EC, Article 31**  

**Trade name:** Meliodent Rapid Repair Liquid

Wear protective gloves/protective clothing/eye protection/face protection.  
If skin irritation or rash occurs: Get medical advice/attention.  
In case of fire: Use for extinction: CO2, sand, extinguishing powder.  
Store in a well-ventilated place. Keep container tightly closed.

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

### 3 Composition/information on ingredients

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

#### Dangerous components:

<table>
<thead>
<tr>
<th>CAS:</th>
<th>Name</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6</td>
<td>methyl methacrylate</td>
<td>&gt; 90%</td>
</tr>
<tr>
<td>EINECS: 201-297-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2082-81-7</td>
<td>tetramethylene dimethacrylate</td>
<td>0-5%</td>
</tr>
<tr>
<td>EINECS: 218-218-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2440-22-4</td>
<td>2-(2H-Benzotriazol-2-yl)-4-methylphenol</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; 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.  
  - **After swallowing** Rinse out mouth and then drink plenty of water.  
    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 Firefighting measures

- **Extinguishing media**  
  - **Suitable extinguishing agents** CO2, sand, extinguishing powder. Do not use water.  
  - **For safety reasons unsuitable extinguishing agents** Water.  

- **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.

(Contd. on page 3)
### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  - Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Prevent material from reaching sewage system, holes and cellars.
- **Methods and material for containment and cleaning up:**
  - Absorb with liquid-binding material (diatomite, universal binders, for small amounts tissues).
  - Do not flush with water or aqueous cleansing agents.
- **Reference to other sections**
  - No dangerous materials are released.
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for information on disposal.

### 7 Handling and storage

- **Handling**
  - **Precautions for safe handling**
    - Keep containers tightly sealed.
    - Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
    - Please observe the additional instructions in the product's instructions for use.
  - **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.
    - **Information about storage in one common storage facility:** Not required.
    - **Further information about storage conditions:**
      - Store cool (not above 25 °C).
      - Store in cool, dry conditions in well sealed containers.
- **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 critical values that require monitoring at the workplace:**
    - **80-62-6 methyl methacrylate**
      - **NES (Australia)**: 410 mg/m³, 100 ppm
      - **Sk, Sen**
Trade name: Meliodent Rapid Repair Liquid

PEL (USA) 410 mg/m³, 100 ppm
REL (USA) 410 mg/m³, 100 ppm
TLV (USA) Short-term value: 410 mg/m³, 100 ppm
Long-term value: 205 mg/m³, 50 ppm

- DNELs

80-62-6 methyl methacrylate
Dermal worker industr., l.te., syst. 74.3 mg/Kg/d (human)
Inhalative worker industr., l.te., syst. 210 mg/m³ (human)

2440-22-4 2-(2H-Benzotriazol-2-yl)-4-methylphenol
Oral ge.pop., l.te, syst. 1.2 mg/Kg (nd)
Dermal ge.pop., l.te, syst. 2.5 mg/Kg/d (nd)
Inhalative worker industr., l.te., syst. 1 mg/m³ (nd)

- PNECs

80-62-6 methyl methacrylate
freshwater 0.94 mg/l (aqua)

2440-22-4 2-(2H-Benzotriazol-2-yl)-4-methylphenol
freshwater 0.1 mg/l (nd)
marine water 0.01 mg/l (nd)
STP 1 mg/l (nd)
sedim., dw, fre.wat. 52.3 mg/Kg (nd)
sedim., dw, mar.wat. 5.23 mg/Kg (nd)
soil,dw 11 mg/Kg (nd)

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

- Exposure controls
  - Personal protective equipment
    - 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.
      Avoid contact with the eyes and skin.
    - Breathing equipment:
      Not neccessary 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
    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.
Trade name: **Meliodent Rapid Repair Liquid**

**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:** 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:** Colourless
    - **Smell:** Characteristic
    - **Odour threshold:** Not determined.
  - **pH-value:** Not determined.

- **Change in condition**
  - **Melting point/Melting range:** Not determined
  - **Boiling point/Boiling range:** 100 °C

- **Flash point:** 10 °C

- **Inflammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 430.0 °C

- **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:** 2.1 Vol %
  - **Upper:** 12.5 Vol %

- **Steam pressure at 20 °C:** 47 hPa

- **Density at 20 °C**
  - **Relative density:** 0.950 g/cm³
  - **Vapour density** Not determined.
Safety data sheet  
according to 1907/2006/EC, Article 31

Trade name: Meliodent Rapid Repair Liquid

- Evaporation rate: Not determined.
- Solubility in / Miscibility with Water: Not miscible or difficult to mix.
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:
  - dynamic at 20 °C: 1 mPas
  - kinematic: Not determined.
- Solvent content:
- Solids content: 1.0 %
- 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: No further relevant information available.
- Hazardous decomposition products: None.
- Additional information:
  If stored longer than recommended and/or above recommended temperature, product may polymerize generating heat.

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

<table>
<thead>
<tr>
<th></th>
<th>LD50</th>
<th>LC50/4 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6 methyl methacrylate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>&gt;5000 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>&gt;5000 mg/kg (rab)</td>
<td></td>
</tr>
<tr>
<td>Inhalative</td>
<td>29.8 mg/l (rat)</td>
<td></td>
</tr>
<tr>
<td>2082-81-7 tetramethylenedimethacrylate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>&gt;10120 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>2440-22-4 2-(2H-Benzotriazol-2-yl)-4-methylphenol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>&gt;10000 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>&gt;2000 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>99-97-8 N,N-dimethyl-p-toluidine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalative</td>
<td>1400 mg/l (rat)</td>
<td></td>
</tr>
</tbody>
</table>
Trade name: Meliodent Rapid Repair Liquid

· **Primary irritant effect:**
  · Skin corrosion/irritation Irritant for skin and mucous membranes.
  · Respiratory or skin sensitisation Sensitization possible by skin contact.

· **Additional toxicological information:** Irritant

12 Ecological information

· **Toxicity**

  · **Aquatic toxicity:**

    | Substance | EC50/72h (algae) | LC50/96h (fish) |
    |-----------|-----------------|----------------|
    | 2440-22-4 2-(2H-Benzotriazol-2-yl)-4-methylphenol | >100 mg/l | >0.17 mg/l |
    | 99-97-8 N,N-dimethyl-p-toluidine | >100 mg/l | 100 mg/l |

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**
  · Biological degradation 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**
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
    Small quantities can be polymerized with the matching system component(s) and the cured solid material can be disposed of with the regular garbage. Larger quantities must be disposed of following the regulations of the local authorities.

· **Uncleaned packagings:**
  · **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**
  · ADG, IMDG, IATA 1247
### Trade name: Meliodent Rapid Repair Liquid

**UN proper shipping name**
- **ADG**: 1247 METHYL METHACRYLATE MONOMER, STABILIZED, solution
- **IMDG, IATA**: METHYL METHACRYLATE MONOMER, STABILIZED, solution

**Transport hazard class(es)**
- **ADG**: 3 (F1) Flammable liquids.
- **IMDG, IATA**: 3 Flammable liquids.

**Packing group**
- **ADG, IMDG, IATA**: II

**Environmental hazards:**
- **Marine pollutant:** No

**Special precautions for user**
- **Kemler Number:** 339
- **EMS Number:** F-E, S-D

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

**Transport/Additional information:**
- UN "Model Regulation": UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, solution, 3, II

### 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).
Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 03.06.2017  Version number 3  Revision: 03.06.2017

Trade name: Meliodent Rapid Repair Liquid

· Hazard pictograms

GHS02  GHS07

· Signal word Danger

· Hazard-determining components of labelling:
methyl methacrylate
N,N-dimethyl-p-toluidine
2-(2H-Benzotriazol-2-yl)-4-methylphenol

· Hazard statements
Highly flammable liquid and vapour.
Causes skin irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.

· Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces.
No smoking.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
If skin irritation or rash occurs: Get medical advice/attention.
In case of fire: Use for extinction: CO2, sand, extinguishing powder.
Store in a well-ventilated place. Keep container tightly closed.

· 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.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.

· 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

(Contd. on page 10)
Trade name: Meliodent Rapid Repair Liquid

Acute Tox. 3: Acute toxicity – Category 3
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.