



**Safety Data Sheet  
according to WHS Regulations**

Printing date 10.08.2021

Version number 4

Revision: 10.08.2021

Hazardous according to criteria of Australian Safety and Compensation Council.

## 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  
Unit 20, 53 Lorraine St  
PEAKHURST NSW 2210  
Australia

Tel: +61 (02) 9153 0311

· **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**

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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.

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**



GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl  
bismethacrylate  
glutaral

2-hydroxyethyl methacrylate

4-methacryloxyethyltrimellitic acid anhydride

· **Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause respiratory irritation.

· **Precautionary statements**

Avoid breathing mist/vapours/spray.

Avoid release to the environment.

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Wear protective gloves/protective clothing/eye protection/face protection.

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If skin irritation or rash occurs: Get medical advice/attention.

If experiencing respiratory symptoms: 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:**

64-17-5	ethanol Flam. Liq. 2, H225 Eye Irrit. 2A, H319 Specific concentration limit: Eye Irrit. 2; H319: C ≥ 50 %	≥25-<50%
72869-86-4	7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate Skin Sens. 1B, H317	≥25-≤50%
868-77-9	2-hydroxyethyl methacrylate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	≥10-≤25%
	Poly(methacrylic-oligo-acrylic acid) Eye Irrit. 2A, H319	0-5%
70293-55-9	4-methacryloxyethyltrimellitic acid anhydride Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	≥1-<5%
111-30-8	glutaral Acute Tox. 3, H301; Acute Tox. 3, H331 Resp. Sens. 1, H334 Skin Corr. 1B, H314 Skin Sens. 1, H317; STOT SE 3, H335 Flam. Liq. 4, H227 Specific concentration limit: STOT SE 3; H335: C ≥ 0.5 %	≥2.5-<5%

· **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**

In case of persistent symptoms consult doctor.

Rinse out mouth and then drink plenty of water.

Instantly call for doctor.

· **Information for doctor**

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

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· **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire Fighting Measures

- **Extinguishing media**
  - **Suitable extinguishing agents**  
CO<sub>2</sub>, 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.

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**Control parameters**

**Components with critical values that require monitoring at the workplace:**

**64-17-5 ethanol**

NES (Australia)	1880 mg/m <sup>3</sup> , 1000 ppm
PEL (USA)	1900 mg/m <sup>3</sup> , 1000 ppm
REL (USA)	1900 mg/m <sup>3</sup> , 1000 ppm
TLV (USA)	Short-term value: 1880 mg/m <sup>3</sup> , 1000 ppm

**111-30-8 glutaral**

NES (Australia)	0.41* mg/m <sup>3</sup> , 0.1 ppm Sen; *Peak limitation
REL (USA)	Short-term value: C 0.8 mg/m <sup>3</sup> , C 0.2 ppm See Pocket Guide App. C
TLV (USA)	Short-term value: C 0.2 mg/m <sup>3</sup> , C 0.05 ppm SEN; activated or inactivated

**112926-00-8 amorphous silica**

NES (Australia)	10 mg/m <sup>3</sup>
PEL (USA)	20mppcf or 80mg/m <sup>3</sup> /%SiO <sub>2</sub> mg/m <sup>3</sup>
REL (USA)	6 mg/m <sup>3</sup>
TLV (USA)	TLV withdrawn

**DNELs**

**64-17-5 ethanol**

Oral	ge.pop., l.te., syst.	87 mg/Kg (nd)
Dermal	worker industr., l.te., syst.	343 mg/Kg/d (nd)
	ge.pop., l.te., syst.	206 mg/Kg/d (nd)
Inhalative	worker industr., l.te., syst.	950 mg/m <sup>3</sup> (nd)
	ge.pop., l.te., syst.	114 mg/m <sup>3</sup> (nd)

**72869-86-4 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate**

Oral	ge.pop., l.te., syst.	0.3 mg/Kg (nd)
Dermal	worker industr., l.te., syst.	1.3 mg/Kg/d (nd)
	ge.pop., l.te., syst.	0.7 mg/Kg/d (nd)
Inhalative	worker industr., l.te., syst.	3.3 mg/m <sup>3</sup> (nd)
	ge.pop., l.te., syst.	0.6 mg/m <sup>3</sup> (nd)

**868-77-9 2-hydroxyethyl methacrylate**

Dermal	worker industr., l.te., syst.	1.3 mg/Kg/d (nd)
Inhalative	worker industr., l.te., syst.	4.9 mg/m <sup>3</sup> (nd)

**PNECs**

**64-17-5 ethanol**

freshwater	0.96 mg/l (nd)
marine water	0.79 mg/l (nd)
STP	580 mg/l (nd)
sedim., dw, fre.wat.	3.6 mg/Kg (nd)
sedim., dw, mar.wat.	2.9 mg/Kg (nd)

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soil,dw	0.63 mg/Kg (nd)
<b>72869-86-4 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyI bismethacrylate</b>	
freshwater	0.01 mg/l (nd)
marine water	0.001 mg/l (nd)
STP	3.61 mg/l (nd)
sedim., dw, fre.wat.	4.56 mg/Kg (nd)
sedim., dw, mar.wat.	0.46 mg/Kg (nd)
soil,dw	0.91 mg/Kg (nd)
<b>868-77-9 2-hydroxyethyl methacrylate</b>	
freshwater	0.482 mg/l (nd)
STP	10 mg/l (nd)
sedim., dw, fre.wat.	3.79 mg/Kg (nd)
soil,dw	0.476 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.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the eyes and skin.

· **Breathing equipment:** Breathing protection recommended.

· **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 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:** Tightly sealed safety glasses.

· **Body protection:** Light weight protective clothing

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### 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:** Not applicable

· **Inflammability (solid, gaseous)** Not applicable.

· **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:** Not determined.
- **Upper:** Not determined.

· **Steam pressure:** Not determined.

· **Density at 20 °C** 1 g/cm<sup>3</sup>

- **Relative density** Not determined.
- **Vapour density** Not determined.
- **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:** No further relevant information available.
- **Hazardous decomposition products:** None
- **Additional information:** -

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**11 Toxicological Information**

- Information on toxicological effects
- Acute toxicity

· LD/LC50 values that are relevant for classification:

<b>64-17-5 ethanol</b>		
Oral	LD50	>10470 mg/kg (rat) (OECD 401)
<b>72869-86-4 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate</b>		
Oral	LD50	>5000 mg/kg (rat) (OECD 401)
Dermal	LD50	>2000 mg/kg (rat) (OECD 402)
<b>868-77-9 2-hydroxyethyl methacrylate</b>		
Oral	LD50	5564 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (can)
<b>Poly(methacrylic-oligo-acrylic acid)</b>		
Oral	LD50	>5000 mg/kg (rat)
<b>70293-55-9 4-methacryloxyethyltrimellitic acid anhydride</b>		
Oral	LD50	>2000 mg/kg (mouse)
Dermal	LD50	>2000 mg/kg (mouse)
<b>111-30-8 glutaral</b>		
Oral	LD50	77 mg/kg (rat)

- 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.
- Additional toxicological information: Harmful
  - CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
  - Reproductive toxicity Based on available data, the classification criteria are not met.

**12 Ecological Information**

- Toxicity

· Aquatic toxicity:

<b>64-17-5 ethanol</b>	
LC50/96h	14200 mg/l (fish)
ErC50 / 72 h	275 mg/l (algae) (OECD 201)
EC50/96h	129000 mg/L (fish)
LC50/48h	5012 mg/L (daphnia)
ErC10/72h	11.5 mg/L (algae) (OECD 201)
NOEC 5d	250 mg/L (fish) (OECD 212)
NOEC 10d	9.6 mg/L (daphnia)
<b>72869-86-4 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate</b>	
EC50/48h	>1.2 mg/l (daphnia) (OECD 202)
LC50/96h	10.1 mg/l (fish) (OECD 203)

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ErC50 / 72 h >0.68 mg/l (algae) (OECD 201)  
NOEC / 72h 0.21 mg/l (algae) (OECD 201)

**868-77-9 2-hydroxyethyl methacrylate**

EC50/48h 380 mg/l (daphnia)  
LC50/96h >100 mg/l (fish)  
EC50 >3000 mg/l (bacteria)  
NOEC / 21d 24.1 mg/l (daphnia)  
ErC50 / 72 h 836 mg/l (algae)  
NOEC / 72h 400 mg/l (algae) (OECD 201)

**· Persistence and degradability**

**64-17-5 ethanol**

Biodegradation 84 % /20d (nd)

**72869-86-4 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate**

Biodegradation 22 % /28d (nd) (OECD 301B; ISO/ 9439/ EEC 92/69/V, C.4-C)

**· 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

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· **Transport hazard class(es)**

· **ADG**



· **Class**  
· **Label**

3 (F1) Flammable liquids.  
3

· **IMDG**



· **Class**  
· **Label**

3 Flammable liquids.  
3

· **IATA**



· **Class**  
· **Label**

3 Flammable liquids.  
3

· **Packing group**

· **ADG, IMDG, IATA**

III

· **Environmental hazards:**

· **Marine pollutant:**

No  
Symbol (fish and tree)

· **Special marking (ADG):**

Symbol (fish and tree)

· **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

· **Transport category**

3

· **Tunnel restriction code**

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· **IMDG**

- **Limited quantities (LQ)**
- **Excepted quantities (EQ)**

5L

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**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.

· **Australian Inventory of Industrial Chemicals**

64-17-5	ethanol
72869-86-4	7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate
868-77-9	2-hydroxyethyl methacrylate
7732-18-5	water, distilled, conductivity or of similar purity
111-30-8	glutaral
10373-78-1	dl-bornane-2,3-dione
88-58-4	2,5-di-tert-butylhydroquinone

· **Australia: Priority Existing Chemicals**

111-30-8	glutaral
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· **National regulations**

The product is subject to classification in accordance with the prevailing version of the regulations on hazardous materials.

· **Other regulations, limitations and prohibitive regulations**

· **AICS - Australian Inventory of Chemical Substances**

64-17-5	ethanol
72869-86-4	7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate
868-77-9	2-hydroxyethyl methacrylate
7732-18-5	water, distilled, conductivity or of similar purity
111-30-8	glutaral
10373-78-1	dl-bornane-2,3-dione
88-58-4	2,5-di-tert-butylhydroquinone

- **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.  
H227 Combustible liquid.

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*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.*

*H335 May cause respiratory irritation.*

**Abbreviations and acronyms:**

*ADR: Accord relatif au transport international 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. 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 Irrit. 2A: Serious eye damage/eye irritation – Category 2A*

*Resp. Sens. 1: Respiratory sensitisation – Category 1*

*Skin Sens. 1: Skin sensitisation – Category 1*

*Skin Sens. 1B: Skin sensitisation – Category 1B*

*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

**\* Data compared to the previous version altered.**