



**Safety Data Sheet
according to WHS Regulations**

Printing date 31.08.2023

Version number 4

Revision: 31.08.2023

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**

Flam. Liq. 2

H225 Highly flammable liquid and vapour.

Skin Irrit. 2

H315 Causes skin irritation.

Serious eye damage/irritation – Category 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**



GHS02 GHS07 GHS08

· **Signal word** Danger

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

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

glutaral

2-hydroxyethyl methacrylate

Homopolymer, reaction product of glycidyl methacrylate with polyacrylic acid

4-methacryloxyethyltrimellitic acid anhydride

· **Hazard statements**

Highly flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction.

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May cause respiratory irritation.

Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Avoid breathing mist/vapours/spray.

Avoid release to the environment.

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 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:

72869-86-4	7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate Skin Sens. 1B, H317	25-50%
64-17-5	ethanol Flam. Liq. 2, H225 Serious eye damage/irritation – Category 2A, H319 Specific concentration limit: Eye Irrit. 2; H319: C ≥ 50 %	≥25-<50%
868-77-9	2-hydroxyethyl methacrylate Skin Irrit. 2, H315; Serious eye damage/irritation – Category 2A, H319; Skin Sens. 1, H317	10-25%
	Homopolymer, reaction product of glycidyl methacrylate with polyacrylic acid Skin Irrit. 2, H315; Serious eye damage/irritation – Category 2A, H319; Skin Sens. 1, H317	≥1-≤5%
70293-55-9	4-methacryloxyethyltrimellitic acid anhydride Acute Tox. 4, H302; Skin Irrit. 2, H315; Serious eye damage/irritation – Category 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	≥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%

SVHC

111-30-8 glutaral

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

4 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.

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- **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.
Instantly call for 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 Fire Fighting Measures

- **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.
- **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.
- **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).

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8 Exposure controls and personal protection· **Additional information about design of technical systems:** No further data; see section 7.· **Components with critical values that require monitoring at the workplace:****64-17-5 ethanol**WES Long-term value: 1880 mg/m³, 1000 ppm**111-30-8 glutaral**WES Peak limitation: 0.41 mg/m³, 0.1 ppm
Sen· **DNELs****72869-86-4 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazaheptadecane-1,16-diyl bismethacrylate**

Oral	general population, long term, systemic	0.3 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	1.3 mg/Kg/d (not defined)
	general population, long term, systemic	0.7 mg/Kg/d (not defined)
Inhalative	worker industrial, long term, systemic	3.3 mg/m ³ (not defined)
	general population, long term, systemic	0.6 mg/m ³ (not defined)

64-17-5 ethanol

Dermal	worker industrial, long term, systemic	8,238 mg/Kg/d (not defined)
Inhalative	worker industrial, long term, systemic	380 mg/m ³ (not defined)
	general population, long term, systemic	114 mg/m ³ (not defined)

868-77-9 2-hydroxyethyl methacrylate

Oral	general population, long term, systemic	0.83 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	1.3 mg/Kg/d (not defined)
	general population, long term, systemic	0.83 mg/Kg/d (not defined)
Inhalative	worker industrial, long term, systemic	4.9 mg/m ³ (not defined)
	general population, long term, systemic	2.9 mg/m ³ (not defined)

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

freshwater	0.01 mg/l (not defined)
marine water	0.001 mg/l (not defined)
sewage treatment plant	3.61 mg/l (not defined)
sediment, dry weight, freshwater	4.56 mg/Kg (not defined)
sediment, dry weight, marine water	0.46 mg/Kg (not defined)
soil, dry weight	0.91 mg/Kg (not defined)

64-17-5 ethanol

freshwater	0.96 mg/l (not defined)
marine water	0.79 mg/l (not defined)
sewage treatment plant	580 mg/l (not defined)
sediment, dry weight, freshwater	3.6 mg/Kg (not defined)
sediment, dry weight, marine water	2.9 mg/Kg (not defined)
soil, dry weight	0.63 mg/Kg (not defined)

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868-77-9 2-hydroxyethyl methacrylate

freshwater	0.482 mg/l (not defined)
marine water	0.482 mg/l (not defined)
sewage treatment plant	10 mg/l (not defined)
sediment, dry weight, freshwater	3.79 mg/Kg (not defined)
sediment, dry weight, marine water	3.79 mg/Kg (not defined)
soil, dry weight	0.476 mg/Kg (not defined)

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

· **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

9 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:**

13 °C

· **Inflammability (solid, gaseous)**

Not applicable.

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- **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/cm³
 - **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.
- **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:** -

11 Toxicological Information

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

· LD/LC50 values that are relevant for classification:

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

Oral LD50 >5,000 mg/kg (rat) (OECD 401)

Dermal LD50 >2,000 mg/kg (rat) (OECD 402)

64-17-5 ethanol

Oral LD50 10,470 mg/kg (rat) (OECD 401)

868-77-9 2-hydroxyethyl methacrylate

Oral LD50 5,564 mg/kg (rat)

Dermal LD50 >5,000 mg/kg (rabbit)

70293-55-9 4-methacryloxyethyltrimellitic acid anhydride

Oral LD50 >2,000 mg/kg (mouse)

Dermal LD50 >2,000 mg/kg (mouse)

111-30-8 glutaral

Oral LD50 77 mg/kg (rat)

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- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
- **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 respiratory irritation.
- **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.

12 Ecological Information

· Toxicity

· Aquatic toxicity:

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

EC50/48h	>1.2 mg/l (daphnia) (OECD 202)
LC50/96h	10.1 mg/l (fish) (OECD 203)
ErC50 / 72 h	>0.68 mg/l (algae) (OECD 201)
NOEC / 72h	0.21 mg/l (algae) (OECD 201)

64-17-5 ethanol

LC50/96h	14,200 mg/l (fish)
ErC50 / 72 h	275 mg/l (algae) (OECD 201)
EC50/96h	129,000 mg/L (fish)
LC50/48h	5,012 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)

868-77-9 2-hydroxyethyl methacrylate

EC50/72h	345 mg/l (algae) (OECD 201)
EC50/21d	90.1 mg/L (daphnia) (OECD 211)
EC50/48h (static)	380 mg/l (daphnia) (OECD 202)
LC50/96h	>100 mg/l (fish) (OECD 203)
NOEC / 21d	24.1 mg/l (daphnia) (OECD 211)
ErC50 / 72 h	836 mg/l (algae) (OECD 201)
NOEC / 72h	400 mg/l (algae) (OECD 201)
NOEC / 48h	171 mg/l (daphnia) (OECD 202)

· Persistence and degradability

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

Biodegradation	22 % /28d (not defined) (OECD 301B; ISO/ 9439/ EEC 92/69/V, C.4-C)
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64-17-5 ethanol

Biodegradation 84 % /20d (not defined)

868-77-9 2-hydroxyethyl methacrylate

Biodegradation 92-100 % /14d (not defined) (OECD 301C)

· **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**

UN1993

· **UN proper shipping name**

· **ADG**

1993 FLAMMABLE LIQUID, N.O.S., special provision 640D (ETHANOL (ETHYL ALCOHOL))
FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL)), MARINE POLLUTANT
FLAMMABLE LIQUID, N.O.S. (ETHANOL)

· **IMDG**

· **IATA**

· **Transport hazard class(es)**

· **ADG**



· **Class**

3 (F1) Flammable liquids.

· **Label**

3

· **IMDG**



· **Class**

3 Flammable liquids.

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· Label	3
· IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADG, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	Symbol (fish and tree)
· Special marking (ADG):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids.
· Kemler Number:	33
· EMS Number:	F-E, S-E
· Stowage Category	B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	-
· ADG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S., SPECIAL PROVISION 640D (ETHANOL (ETHYL ALCOHOL)), 3, II

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

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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

· Substances of very high concern (SVHC) according to REACH, Article 57

111-30-8	glutaral
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· 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.
- H301 Toxic if swallowed.
- H302 Harmful 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)

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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
SVHC: Substances of Very High Concern
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
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Serious eye damage/irritation – Category 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.**

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