



**Safety Data Sheet  
according to WHS Regulations**

Printing date 17.11.2022

Version number 5

Revision: 17.11.2022

Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

· **Product identifier**

· **Trade name:** **Signum ceramic bond II**

· **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.

· **Application of the substance / the mixture** Auxiliary for manufacture of dental prothesis

· **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**

Eye Irritation 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms**



GHS07

· **Signal word** Warning

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

propylidynetrimethanol, ethoxylated, esters with acrylic acid

1,4-butandiol dimethacrylate

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

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediy)bis[oxy(methyl-2,1-ethanediy)]]ester, reaction products with diethylamine

· **Hazard statements**

Causes serious eye irritation.

May cause an allergic skin reaction.

· **Precautionary statements**

Avoid release to the environment.

Wear protective gloves / eye protection.

If eye irritation persists: Get medical advice/attention.

· **Other hazards -**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

(Contd. on page 2)

AU

**Safety Data Sheet  
according to WHS Regulations**

Printing date 17.11.2022

Version number 5

Revision: 17.11.2022

**Trade name: Signum ceramic bond II**· **vPvB:** Not applicable.

(Contd. of page 1)

**3 Composition and Information on Ingredients**

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

· **Dangerous components:**

28961-43-5	propylidynetrimehanol, ethoxylated, esters with acrylic acid Eye Irritation 2A, H319; Skin Sens. 1, H317	≥10-≤50%
2082-81-7	1,4-butandioldimethacrylate Skin Sens. 1B, H317	≥10-≤25%
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	≥10-<25%
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide Repr. 2, H361 Skin Sens. 1B, H317	≥1-<2.5%
111497-86-0	2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediy)bis[oxy(methyl-2,1-ethanediy)]]ester, reaction products with diethylamine Skin Irrit. 2, H315; Skin Sens. 1B, H317	≥1-≤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.  
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.  
In case of persistent symptoms consult doctor.  
Seek immediate medical advice.
- **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**

- **Extinguishing media**
  - **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.  
Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
  - **Protective equipment:** No special measures required.

(Contd. on page 3)

AU



**Safety Data Sheet  
according to WHS Regulations**

Printing date 17.11.2022

Version number 5

Revision: 17.11.2022

**Trade name: Signum ceramic bond II**

· **Additional information -**

(Contd. of page 2)

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**  
Avoid contact with eyes and skin.
- **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).
- **Reference to other sections**  
No dangerous materials are released.  
See Section 8 for information on personal protection equipment.
- 

### 7 Handling and Storage

- **Handling**
  - **Precautions for safe handling** Keep containers tightly sealed.
  - **Information about protection against explosions and fires:** No special measures required.
- **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.
- **Control parameters**
  - **Components with critical values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.  
Not required.

· <b>DNELs</b>		
<b>2082-81-7 1,4-butandiol dimethacrylate</b>		
Oral	general population, long term, systemic	2.5 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	4.2 mg/Kg/d (not defined)
	general population, long term, systemic	2.5 mg/Kg/d (not defined)
Inhalative	worker professional, long term, systemic	14.5 mg/m <sup>3</sup> (not defined)
	general population, long term, systemic	4.3 mg/m <sup>3</sup> (not defined)
<b>72869-86-4 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate</b>		
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 <sup>3</sup> (not defined)
	general population, long term, systemic	0.6 mg/m <sup>3</sup> (not defined)

(Contd. on page 4)



**Safety Data Sheet  
according to WHS Regulations**

Printing date 17.11.2022

Version number 5

Revision: 17.11.2022

**Trade name: Signum ceramic bond II**

(Contd. of page 3)

**75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide**

Oral	general population, long term, systemic	0.0833 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	0.233 mg/Kg/d (not defined)
	general population, long term, systemic	0.0833 mg/Kg/d (not defined)
Inhalative	worker industrial, long term, systemic	0.822 mg/m3 (not defined)
	general population, long term, systemic	0.145 mg/m3 (not defined)

**· PNECs**

**2082-81-7 1,4-butandioldimethacrylate**

freshwater	0.043 mg/l (not defined)
marine water	0.004 mg/l (not defined)
sewage treatment plant	2 mg/l (not defined)
sediment, dry weight, freshwater	3.12 mg/Kg (not defined)
sediment, dry weight, marine water	0.312 mg/Kg (not defined)
soil, dry weight	0.573 mg/Kg (not defined)

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

**75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide**

freshwater	0.0014 mg/l (not defined)
marine water	0.00014 mg/l (not defined)
sediment, dry weight, freshwater	0.115 mg/Kg (not defined)
sediment, dry weight, marine water	0.0115 mg/Kg (not defined)
soil, dry weight	0.0222 mg/Kg (not defined)

**· Additional information:** The lists that were valid during the compilation 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 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 necessary with efficient local exhaust. If exposition to vapours is possible, use breathing protective mask (filter A).

**· Protection of hands:**

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.

(Contd. on page 5)



**Safety Data Sheet  
according to WHS Regulations**

Printing date 17.11.2022

Version number 5

Revision: 17.11.2022

**Trade name: Signum ceramic bond II**

(Contd. of page 4)

- **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**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

- **Form:** Fluid
- **Colour:** Colourless
- **Smell:** Ester-like
- **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

- **Melting point/freezing point:** Not determined
- **Initial boiling point and boiling range:** 100 °C

· **Flash point:** >100 °C

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

· **Ignition temperature:** 265.0 °C

· **Decomposition temperature:** Not determined.

· **Self-inflammability:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive.

· **Critical values for explosion:**

- **Lower:** Not determined.
- **Upper:** Not determined.

· **Steam pressure at 20 °C:** 40 hPa

· **Density at 20 °C** 0.850 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.

(Contd. on page 6)



**Safety Data Sheet  
according to WHS Regulations**

Printing date 17.11.2022

Version number 5

Revision: 17.11.2022

**Trade name: Signum ceramic bond II**

(Contd. of page 5)

· **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:**

**28961-43-5 propylidyntrimethanol, ethoxylated, esters with acrylic acid**

Oral LD50 >2,000 mg/kg (rat) (OECD 401)

Dermal LD50 >13,200 mg/kg (rabbit)

**2530-85-0 3-trimethoxysilylpropyl methacrylate**

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

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

**2082-81-7 1,4-butandiol dimethacrylate**

Oral LD50 10,066 mg/kg (rat) (OECD 401)

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

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

**68611-44-9 Silane, dichlorodimethyl-, reaction products with silica**

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

**75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide**

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

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

**111497-86-0 2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediy)bis[oxy(methyl-2,1-ethanediy)]] ester, reaction products with diethylamine**

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

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

- **Primary irritant effect:**
  - **Skin corrosion/irritation** No irritant effect.
  - **Serious eye damage/irritation** Irritant effect.
- **Respiratory or skin sensitisation** No sensitizing effect known.

(Contd. on page 7)

AU



**Safety Data Sheet  
according to WHS Regulations**

Printing date 17.11.2022

Version number 5

Revision: 17.11.2022

**Trade name: Signum ceramic bond II**

(Contd. of page 6)

**Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Irritant

· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**

· **Reproductive toxicity** Based on available data, the classification criteria are not met.

**12 Ecological Information**

· **Toxicity**

· **Aquatic toxicity:**

**2530-85-0 3-trimethoxysilylpropyl methacrylate**

EC50/48h >100 mg/l (daphnia) (EU C2.)

LC50/96h >100 mg/l (fish) (EU C.1)

**2082-81-7 1,4-butandiol dimethacrylate**

EC50/21d 14.1 mg/L (daphnia) (OECD 211)

EC50/48h 32.5 mg/l (fish)

NOEC / 21d 5.09 mg/l (daphnia) (OECD 211)

ErC50 / 72 h 9.79 mg/l (algae) (OECD 201)

NOEC / 72h 2.11 mg/l (algae) (OECD 201)

NOEC / 48h 25 mg/l (fish)

ErC10/72h 4.35 mg/L (algae) (OECD 201)

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

**68611-44-9 Silane, dichlorodimethyl-, reaction products with silica**

LC50/96h >10,000 mg/l (fish) (OECD 203)

ErC50 / 72 h >10,000 mg/l (algae) (OECD 201)

EC50 / 24h >10,000 mg/l (daphnia) (OECD 202)

**75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide**

EC50/48h 10,100 mg/l (algae)

3.53 mg/l (daphnia) (OECD 202)

LC50/96h 1.4 mg/l (fish) (OECD 203)

ErC50 / 72 h >2.01 mg/l (algae) (OECD 201)

ErC10/72h 1.56 mg/L (algae) (OECD 201)

· **Persistence and degradability**

**2530-85-0 3-trimethoxysilylpropyl methacrylate**

Biodegradation 69 % /28d (not defined) (OECD 301F; ISO 9408/ EEC 92/69/V, C.4-D)

**2082-81-7 1,4-butandiol dimethacrylate**

Biodegradation 84 % /28d (not defined) (OECD 310)

**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 (not defined) (OECD 301B; ISO/ 9439/ EEC 92/69/V, C.4-C)

(Contd. on page 8)



**Safety Data Sheet  
according to WHS Regulations**

Printing date 17.11.2022

Version number 5

Revision: 17.11.2022

**Trade name: Signum ceramic bond II**

(Contd. of page 7)

**75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide**

Biodegradation 0-10 % /28d (not defined) (OECD 301F; ISO 9408/ EEC 92/69/V, C.4-D)

· **Behaviour in environmental systems:**

· **Bioaccumulative potential**

**75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide**

Bloconcentration factor (BCF) 47-55 (not defined)

· **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, even in small quantities.

Danger to drinking water if even extremely 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.

Disposal must be made according to official regulations.

· **Uncleaned packagings:**

· **Recommendation:**

Disposal must be made according to official regulations.

Non contaminated packagings can be used for recycling.

### 14 Transport information

· **UN-Number**

· **ADG, ADN, IMDG, IATA**

Void

· **UN proper shipping name**

· **ADG, ADN, IMDG, IATA**

Void

· **Transport hazard class(es)**

· **ADG, ADN, IMDG, IATA**

· **Class**

Void

· **Packing group**

· **ADG, IMDG, IATA**

Void

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special precautions for user**

Not applicable.

· **Transport in bulk according to Annex II of  
Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**

-

(Contd. on page 9)





**Safety Data Sheet  
according to WHS Regulations**

Printing date 17.11.2022

Version number 5

Revision: 17.11.2022

**Trade name: Signum ceramic bond II**

(Contd. of page 8)

· **UN "Model Regulation":** Void

### 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**

28961-43-5	propylidynetrimehanol, ethoxylated, esters with acrylic acid
2530-85-0	3-trimethoxysilylpropyl methacrylate
2082-81-7	1,4-butandiol dimethacrylate
41137-60-4	diurethandimethacrylate
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
128-37-0	2,6-di-tert-butyl-p-cresol

· **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**

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H361 Suspected of damaging fertility or the unborn child.

· **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

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

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

Repr. 2: Reproductive toxicity – Category 2

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