



**Safety Data Sheet
according to WHS Regulations**

Printing date 03.08.2022

Version number 4

Revision: 03.08.2022

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **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:**

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.

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

1,4-butandiol dimethacrylate

2- (2H-Benzotriazol-2-yl) -p-cresol

· **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, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Do not breathe dust/fume/gas/mist/vapours/spray.

Avoid release to the environment.

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

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

· **Other hazards** -

(Contd. on page 2)

AU



**Safety Data Sheet
according to WHS Regulations**

Printing date 03.08.2022

Version number 4

Revision: 03.08.2022

Trade name: Meliodent Rapid Repair Liquid

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

(Contd. of page 1)

3 Composition and Information on Ingredients

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

-
Product based on methacrylates

- **Dangerous components:**

80-62-6	methyl methacrylate Flam. Liq. 2, H225 Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	>90%
2082-81-7	1,4-butandiol dimethacrylate Skin Sens. 1B, H317	≥1-≤5%
2440-22-4	2- (2H-Benzotriazol-2-yl) -p-cresol Skin Sens. 1B, H317	≥0.1-<1%
99-97-8	N,N-dimethyl-p-toluidine Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 STOT RE 2, H373	<1%

- **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. Then consult doctor.
 - **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** Allergic reactions
 - **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting 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.
- **Advice for firefighters**
 - **Protective equipment:** No special measures required.

(Contd. on page 3)



**Safety Data Sheet
according to WHS Regulations**

Printing date 03.08.2022

Version number 4

Revision: 03.08.2022

Trade name: Meliodent Rapid Repair Liquid

· **Additional information -**

(Contd. of page 2)

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
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).
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 ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
 - **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 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:**

80-62-6 methyl methacrylate

WES	Short-term value: 416 mg/m ³ , 100 ppm
	Long-term value: 208 mg/m ³ , 50 ppm
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· **DNELs**

80-62-6 methyl methacrylate

Oral	general population, long term, systemic	8.2 mg/Kg (not defined)
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(Contd. on page 4)



**Safety Data Sheet
according to WHS Regulations**

Printing date 03.08.2022

Version number 4

Revision: 03.08.2022

Trade name: Meliodent Rapid Repair Liquid

(Contd. of page 3)

<i>Dermal</i>	<i>worker industrial, long term, systemic</i>	13.67 mg/Kg/d (not defined)
	<i>general population, long term, systemic</i>	8.2 mg/Kg/d (not defined)
<i>Inhalative</i>	<i>worker industrial, acute, local</i>	416 mg/m ³ (not defined)
	<i>worker industrial, long term, systemic</i>	348.4 mg/m ³ (not defined)
	<i>worker industrial, long term, local</i>	208 mg/m ³ (not defined)
	<i>general population, acute, local</i>	208 mg/m ³ (not defined)
	<i>general population, long term, systemic</i>	74.3 mg/m ³ (not defined)
2082-81-7 1,4-butandioldimethacrylate		
<i>Oral</i>	<i>general population, long term, systemic</i>	2.5 mg/Kg (not defined)
<i>Dermal</i>	<i>worker industrial, long term, systemic</i>	4.2 mg/Kg/d (not defined)
	<i>general population, long term, systemic</i>	2.5 mg/Kg/d (not defined)
<i>Inhalative</i>	<i>worker professional, long term, systemic</i>	14.5 mg/m ³ (not defined)
	<i>general population, long term, systemic</i>	4.3 mg/m ³ (not defined)
2440-22-4 2- (2H-Benzotriazol-2-yl) -p-cresol		
<i>Oral</i>	<i>general population, long term, systemic</i>	1.2 mg/Kg (not defined)
<i>Dermal</i>	<i>worker industrial, long term, systemic</i>	2.5 mg/Kg/d (not defined)
	<i>general population, long term, systemic</i>	1.2 mg/Kg/d (not defined)
<i>Inhalative</i>	<i>worker industrial, acute, systemic</i>	1 mg/m ³ (not defined)
	<i>worker industrial, long term, systemic</i>	1 mg/m ³ (not defined)
	<i>worker professional, long term, local</i>	1 mg/m ³ (not defined)
· PNECs		
80-62-6 methyl methacrylate		
<i>freshwater</i>		0.94 mg/l (not defined)
<i>marine water</i>		0.094 mg/l (not defined)
<i>sewage treatment plant</i>		10 mg/l (not defined)
<i>sediment, dry weight, freshwater</i>		10.2 mg/Kg (not defined)
<i>sediment, dry weight, marine water</i>		0.102 mg/Kg (not defined)
<i>soil, dry weight</i>		1.48 mg/Kg (not defined)
2082-81-7 1,4-butandioldimethacrylate		
<i>freshwater</i>		0.043 mg/l (not defined)
<i>marine water</i>		0.004 mg/l (not defined)
<i>sewage treatment plant</i>		2 mg/l (not defined)
<i>sediment, dry weight, freshwater</i>		3.12 mg/Kg (not defined)
<i>sediment, dry weight, marine water</i>		0.312 mg/Kg (not defined)
<i>soil, dry weight</i>		0.573 mg/Kg (not defined)
2440-22-4 2- (2H-Benzotriazol-2-yl) -p-cresol		
<i>freshwater</i>		0 mg/l (not defined)
<i>marine water</i>		0 mg/l (not defined)
<i>sewage treatment plant</i>		1 mg/l (not defined)
<i>sediment, dry weight, freshwater</i>		0.136 mg/Kg (not defined)
<i>sediment, dry weight, marine water</i>		0.014 mg/Kg (not defined)
<i>soil, dry weight</i>		100 mg/Kg (not defined)

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

(Contd. on page 5)

AU



**Safety Data Sheet
according to WHS Regulations**

Printing date 03.08.2022

Version number 4

Revision: 03.08.2022

Trade name: Meliodent Rapid Repair Liquid

(Contd. of page 4)

· **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 necessary 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.

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

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

· **General Information**

· **Appearance:**

· Form:	Fluid
· Colour:	Colourless
· Smell:	Characteristic
· Odour threshold:	Not determined.

· **pH-value:** Mixture is non-soluble (in water).

· **Change in condition**

· **Melting point/freezing point:** Not determined

· **Initial boiling point and boiling range:** 100 °C

· **Flash point:** 10 °C

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

(Contd. on page 6)

AU



**Safety Data Sheet
according to WHS Regulations**

Printing date 03.08.2022

Version number 4

Revision: 03.08.2022

Trade name: Meliodent Rapid Repair Liquid

(Contd. of page 5)

· Ignition temperature:	430 °C
· Decomposition temperature:	Not determined.
· SAPT	
Meliodent Rapid Repair Liquid	> 60 °C
· 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:	2.1 Vol %
· Upper:	12.5 Vol %
· Steam pressure at 20 °C:	47 hPa
· Density at 20 °C	0.94613 g/cm ³
· 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 at 20 °C:	1 mPas
· 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:**
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:		
80-62-6 methyl methacrylate		
Oral	LD50	~7,900 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (guinea pig) (OECD 402)
Inhalative	LC50/4 h	29.8 mg/l (rat)

(Contd. on page 7)



**Safety Data Sheet
according to WHS Regulations**

Printing date 03.08.2022

Version number 4

Revision: 03.08.2022

Trade name: Meliodent Rapid Repair Liquid

(Contd. of page 6)

2082-81-7 1,4-butandioldimethacrylate		
Oral	LD50	10,066 mg/kg (rat) (OECD 401)
2440-22-4 2- (2H-Benzotriazol-2-yl) -p-cresol		
Oral	LD50	10,000 mg/kg (rat) (OECD 423)
99-97-8 N,N-dimethyl-p-toluidine		
Oral	LD50	139 mg/kg (rat)

- **Primary irritant effect:**
 - **Skin corrosion/irritation** Irritant for skin and mucous membranes.
 - **Serious eye damage/irritation** No irritant effect.
 - **Respiratory or skin sensitisation** Sensitization possible by skin contact.
- **Additional toxicological information:** Irritant
 - **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:**

80-62-6 methyl methacrylate	
EC50/21d	49 mg/L (daphnia) (OECD 211)
EC50/48h	69 mg/l (daphnia) (EPA OTS 797.1300)
NOEC / 21d	37 mg/l (daphnia) (OECD 211)
ErC50 / 72 h	>110 mg/l (algae) (OECD 201)
NOEC / 72h	110 mg/l (algae) (OECD 201)
NOEC / 48h	48 mg/l (daphnia) (EPA OTS 797.1300)
EbC50 / 72h	>110 mg/l (algae) (OECD 201)
NOEC/ 35d	9.4 mg/L (fish) (OECD 210)
LC50/ 35d	33.7 mg/L (fish) (OECD 210)
2082-81-7 1,4-butandioldimethacrylate	
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)
2440-22-4 2- (2H-Benzotriazol-2-yl) -p-cresol	
EC50/72h	>100 mg/l (algae)
EC50/21d	0.015 mg/L (daphnia) (OECD 211)
LC50/96h	>0.17 mg/l (fish) (OECD 203)
NOEC / 21d	0.013 mg/l (daphnia) (OECD 211)
ErC50 / 72 h	>0.0822 mg/l (algae) (OECD 201)
NOEC / 96h	0.17 mg/l (fish) (OECD 203)
EC50 / 24h	>1,000 mg/l (daphnia) (OECD 202)
ErC10/72h	0.0588 mg/L (algae) (OECD 201)

(Contd. on page 8)



Safety Data Sheet
according to WHS Regulations

Printing date 03.08.2022

Version number 4

Revision: 03.08.2022

Trade name: Meliodent Rapid Repair Liquid

(Contd. of page 7)

99-97-8 N,N-dimethyl-p-toluidine

LC50/96h 100 mg/l (fish)

· Persistence and degradability

80-62-6 methyl methacrylate

Biodegradation 94 % /14d (not defined) (OECD 301C)

2082-81-7 1,4-butandiol dimethacrylate

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

2440-22-4 2- (2H-Benzotriazol-2-yl) -p-cresol

Biodegradation 0-2 % /28d (not defined) (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:**

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.

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, IMDG, IATA**

UN1247

· UN proper shipping name

· **ADG**

1247 METHYL METHACRYLATE MONOMER,
STABILIZED solution

· **IMDG, IATA**

METHYL METHACRYLATE MONOMER,
STABILIZED solution

(Contd. on page 9)

AU



Safety Data Sheet
according to WHS Regulations

Printing date 03.08.2022

Version number 4

Revision: 03.08.2022

Trade name: Meliodent Rapid Repair Liquid

(Contd. of page 8)

· **Transport hazard class(es)**

· **ADG**



· **Class**
· **Label**

3 (F1) Flammable liquids.
3

· **IMDG, IATA**



· **Class**
· **Label**

3 Flammable liquids.
3

· **Packing group**

· **ADG, IMDG, IATA**

II

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Flammable liquids.

· **Kemler Number:**

339

· **EMS Number:**

F-E, S-D

· **Stowage Category**

B

· **Stowage Code**

SW2 Clear of living quarters.

· **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

ml

(Contd. on page 10)

AU



**Safety Data Sheet
according to WHS Regulations**

Printing date 03.08.2022

Version number 4

Revision: 03.08.2022

Trade name: Meliodent Rapid Repair Liquid

(Contd. of page 9)

· **UN "Model Regulation":** UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED SOLUTION, 3, II

15 Regulatory information

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

· **Australian Inventory of Industrial Chemicals**

80-62-6	methyl methacrylate
2082-81-7	1,4-butandiol dimethacrylate
2440-22-4	2- (2H-Benzotriazol-2-yl) -p-cresol
99-97-8	N,N-dimethyl-p-toluidine
25103-12-2	Triisooctyl phosphite
26952-21-6	isooctan-1-ol

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category P5c** FLAMMABLE LIQUIDS

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5.000 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50.000 t

· **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.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H331 Toxic if inhaled.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

· **Abbreviations and acronyms:**

SAPT: Self Accelerating Polymerisation Temperature

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

Acute Tox. 3: Acute toxicity – Category 3

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

(Contd. on page 11)



Safety Data Sheet
according to WHS Regulations

Printing date 03.08.2022

Version number 4

Revision: 03.08.2022

Trade name: Meliodent Rapid Repair Liquid

(Contd. of page 10)

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
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
*** Data compared to the previous version altered.**

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