



**Safety Data Sheet
according to WHS Regulations**

Printing date 30.01.2024

Version number 4

Revision: 30.01.2024

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· Trade name: **Palavit 55 VS 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

· **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.
Avoid breathing mist/vapours/spray.
Wear protective gloves / eye protection.

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- If skin irritation or rash occurs: Get medical advice/attention.
- **Other hazards -**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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%

- **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.
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.
Product based on methacrylates
- **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, 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.
- **Protective equipment:** No special measures required.
- **Additional information -**

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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).
- **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:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **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 section 7.

- **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
Sen	

· DNELs

80-62-6 methyl methacrylate

Oral	general population, long term, systemic	8.2 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	13.67 mg/Kg/d (not defined)
	general population, long term, systemic	8.2 mg/Kg/d (not defined)
Inhalative	worker industrial, acute, local	416 mg/m ³ (not defined)
	worker industrial, long term, systemic	348.4 mg/m ³ (not defined)
	worker industrial, long term, local	208 mg/m ³ (not defined)
	general population, acute, local	208 mg/m ³ (not defined)

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	general population, long term, systemic	74.3 mg/m3 (not defined)
2082-81-7 1,4-butandiol dimethacrylate		
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/m3 (not defined)
	general population, long term, systemic	4.3 mg/m3 (not defined)
131-57-7 Oxybenzone		
Oral	general population, long term, systemic	2 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	39 mg/Kg/d (not defined)
	general population, long term, systemic	20 mg/Kg/d (not defined)
Inhalative	worker industrial, long term, systemic	27.7 mg/m3 (not defined)
	general population, long term, systemic	6.8 mg/m3 (not defined)
63393-96-4 Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides		
Inhalative	worker professional, long term, systemic	0.42 mg/m3 (not defined)
PNECs		
80-62-6 methyl methacrylate		
freshwater		0.94 mg/l (not defined)
marine water		0.094 mg/l (not defined)
sewage treatment plant		10 mg/l (not defined)
sediment, dry weight, freshwater		10.2 mg/Kg (not defined)
sediment, dry weight, marine water		0.102 mg/Kg (not defined)
soil, dry weight		1.48 mg/Kg (not defined)
2082-81-7 1,4-butandiol dimethacrylate		
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)
131-57-7 Oxybenzone		
freshwater		0.00067 mg/l (not defined)
marine water		0.000067 mg/l (not defined)
sewage treatment plant		10 mg/l (not defined)
sediment, dry weight, freshwater		0.066 mg/Kg (not defined)
sediment, dry weight, marine water		0.007 mg/Kg (not defined)
soil, dry weight		0.013 mg/Kg (not defined)
63393-96-4 Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides		
freshwater		0.00015 mg/l (not defined)
marine water		0.00000002 mg/l (not defined)

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sewage treatment plant	0.44 mg/l (not defined)
sediment, dry weight, freshwater	0.00063 mg/Kg (not defined)
sediment, dry weight, marine water	0.00000006 mg/Kg (not defined)
soil, dry weight	0.00000004 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.
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:** Safety glasses

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

9 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).

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- **Change in condition**
 - **Melting point/freezing point:** -48 °C
 - **Initial boiling point and boiling range:** 100 °C
 - **Flash point:** 10 °C
 - **Inflammability (solid, gaseous)** Not applicable.
 - **Auto-ignition temperature:** 430.0 °C
 - **Decomposition temperature:** Not determined.
- **SAPT**
Palavit 55 VS 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** 0.940 g/cm³
 - **Relative density** Not determined.
 - **Vapour density** Not determined.
 - **Evaporation rate** Not determined.
- **Solubility in / Miscibility with**
 - **Water at 20 °C:** 1.6 g/l
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
 - **dynamic at 20 °C:** 1 mPas
 - **kinematic:** Not determined.
- **Solvent content:**
 - **Water:** 0.2 %
- **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:**
If stored longer than recommended and/or above recommended temperature, product may polymerize generating heat.

11 Toxicological Information

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

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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)
2082-81-7 1,4-butandiol dimethacrylate		
Oral	LD50	10,066 mg/kg (rat) (OECD 401)
131-57-7 Oxybenzone		
Oral	LD50	>12,800 mg/kg (rat) (OECD 401)
Dermal	LD50	>16,000 mg/kg (rabbit) (OECD 402)
63393-96-4 Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides		
Oral	LD50	200 mg/kg (ATE) >200-<2,000 mg/kg (rat) (OECD 401)

- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation**
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:	
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-butandiol dimethacrylate	
EC50/21d	14.1 mg/L (daphnia) (OECD 211)

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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)

131-57-7 Oxybenzone

EC50/48h	1.87 mg/l (daphnia) (OECD 202)
LC50/96h	3.8 mg/l (fish) (OECD 203)
ErC50 / 72 h	0.67 mg/l (algae) (OECD 201)
NOEC / 72h	0.18 mg/l (algae) (OECD 201)
NOEC / 96h	0.72 mg/l (fish) (OECD 203)
NOEC / 48h	1.15 mg/l (daphnia) (OECD 202)

63393-96-4 Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides

EC50/48h	0.16 mg/l (daphnia) (OECD 202)
LC50/96h	0.15 mg/l (fish) (OECD 203)
ErC50 / 72 h	0.29 mg/l (algae) (OECD 201)
ErC10/72h	0.138 mg/L (algae) (OECD 201)

· **Persistence and degradability**

80-62-6 methyl methacrylate

Biodegradation	94 % /14d (not defined) (OECD 301C)
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2082-81-7 1,4-butandiol dimethacrylate

Biodegradation	84 % /28d (not defined) (OECD 310)
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131-57-7 Oxybenzone

Biodegradation	60-70 % /28d (not defined)
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63393-96-4 Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides

Biodegradation	10-<20 % /60d (not defined) (OECD 301B; ISO/ 9439/ EEC 92/69/V, C.4-C)
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· **Behaviour in environmental systems:**

· **Bioaccumulative potential**

131-57-7 Oxybenzone

Bioconcentration factor (BCF)	>33-<160 (fish) (OECD 305)
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· **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.

Do not allow undiluted product or large quantities of it 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.

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· **Other adverse effects** No further relevant information available.

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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

· **Transport hazard class(es)**

· **ADG**



· **Class**

3 (F1) Flammable liquids.

· **Label**

3

· **IMDG, IATA**



· **Class**

3 Flammable liquids.

· **Label**

3

· **Packing group**

· **ADG, IMDG, IATA**

II

· **Environmental hazards:**

· **Marine pollutant:**

No

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· 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
· 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-butandioldimethacrylate
5137-55-3	methyltrioctylammonium chloride
131-57-7	Oxybenzone
	N,N-bis(2-hydroxyethyl)-p-toluidine
13395-16-9	copper(II) 4-oxopent-2-en-2-olate
150-76-5	mequinol
7732-18-5	water, distilled, conductivity or of similar purity
· 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

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· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

· **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**

80-62-6	methyl methacrylate
2082-81-7	1,4-butandiol dimethacrylate
131-57-7	Oxybenzone
63393-96-4	Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides
3077-12-1	2,2'-[(4-methylphenyl)imino]bisethanol
7732-18-5	water, distilled, conductivity or of similar purity
110-16-7	maleic acid
13395-16-9	copper(II) 4-oxopent-2-en-2-olate
111-87-5	1-Octanol
112-30-1	1-Decanol
68814-95-9	Amines, tri-C8-10-alkyl
150-76-5	mequinol

· **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.

H335 May cause respiratory irritation.

· **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

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

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.**