



**Safety data sheet**  
**according to 1907/2006/EC, Article 31**

Printing date 03.06.2017

Version number 4

Revision: 03.06.2017

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

- **1.1 Product identifier**
  - **Trade name:** **Dentalon plus liquid**
- **1.2 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
- **1.3 Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**  
Kulzer GmbH  
Leipziger Straße 2, 63450 Hanau (Germany) Tel.: +49 (0)800 4372522
  - **Informing department:** E-Mail: [msds@kulzer-dental.com](mailto:msds@kulzer-dental.com)
- **1.4 Emergency telephone number:** Emergency CONTACT (24-Hour-Number): +49 (0)6132-84463

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
  - **Classification according to Regulation (EC) No 1272/2008**

Flam. Liq. 3	H226 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.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

· **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

  - **Hazard pictograms**



GHS02 GHS07

- **Signal word** Warning
- **Hazard-determining components of labelling:**

*n*-butyl methacrylate  
ethyl methacrylate

- **Hazard statements**

H226 Flammable liquid and vapour.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.  
H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P210 *Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*  
P241 *Use explosion-proof electrical/ventilating/lighting/equipment.*  
P261 *Avoid breathing dust/fume/gas/mist/vapours/spray.*

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P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.

Rinse skin with water/shower.

P321

Specific treatment (see on this label).

P405

Store locked up.

**2.3 Other hazards -**

**Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**SECTION 3: Composition/information on ingredients**

**3.2 Chemical characterisation: Mixtures**

- **Description:** Product based on methacrylates

**Dangerous components:**

CAS: 97-88-1 EINECS: 202-615-1 Reg.nr.: 2119486394-28-0000	<i>n</i> -butyl methacrylate Flam. Liq. 3, H226; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	75-90%
CAS: 97-63-2 EINECS: 202-597-5 Reg.nr.: 05-2114105438-54-XXXX	ethyl methacrylate Flam. Liq. 2, H225; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	5-10%
CAS: 25973-55-1 Reg.nr.: 01-2119955688-17-0000	2-(2-Hydroxy-3,5-di-tert-pentylphenyl)-2H-benzotriazol STOT RE 2, H373; Aquatic Chronic 4, H413	0-5%
CAS: 5137-55-3 EINECS: 225-896-2	methyltrioctylammonium chloride Acute Tox. 3, H301; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	< 1%

**SVHC**

25973-55-1 | 2-(2-Hydroxy-3,5-di-tert-pentylphenyl)-2H-benzotriazol

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

**SECTION 4: First aid measures**

**4.1 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. 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

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

No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.



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**SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
  - **Suitable extinguishing agents** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
  - **For safety reasons unsuitable extinguishing agents**  
Water.  
Water with a full water jet.
- **5.2 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.
- **5.3 Advice for firefighters**
  - **Protective equipment:** No special measures required.
  - **Additional information** -

**SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Prevent material from reaching sewage system, holes and cellars.
- **6.3 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
- **6.4 Reference to other sections**  
No dangerous materials are released.  
See Section 8 for information on personal protection equipment.  
-

**SECTION 7: Handling and storage**

- **7.1 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.
- **7.2 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).
- **7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **8.1 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.

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**· DNELs**

**97-88-1 n-butyl methacrylate**

Dermal	worker industr., l.te., local	5 mg/Kg/d (nd)
Inhalative	worker industr., l.te., local	409 mg/m <sup>3</sup> (nd)

**· PNECs**

**97-88-1 n-butyl methacrylate**

freshwater	0.17 mg/l (nd)
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**· Additional information:** *The lists that were valid during the compilation were used as basis.*

**· 8.2 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 required.*

**· 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:**

*Protective goggles are recommended.  
Tightly sealed safety glasses.*

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

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**SECTION 9: Physical and chemical properties**

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

**· General Information**

**· Appearance:**

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

· pH-value: Not determined.

**· Change in condition**

· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	119 °C

· Flash point: 24 °C

· Inflammability (solid, gaseous) Not applicable.

· Ignition temperature: 490.0 °C

· Decomposition temperature: Not determined.

· Self-inflammability: Product is not selfigniting.

· Danger of explosion: 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 at 20 °C: 40 hPa

· Density at 20 °C 0.940 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 at 20 °C:	1 mPas
· kinematic:	Not determined.

**· Solvent content:**

· Solids content: 1.0 %

· 9.2 Other information No further relevant information available.

**SECTION 10: Stability and reactivity**

· 10.1 Reactivity No further relevant information available.

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- **10.2 Chemical stability**
  - **Conditions to be avoided:** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** None
- **Additional information:**
  - If stored longer than recommended and/or above recommended temperature, product may polymerize generating heat.

**SECTION 11: Toxicological information**

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

· **LD/LC50 values that are relevant for classification:**

**97-88-1 n-butyl methacrylate**

Oral	LD50	> 2000 mg/kg (rat)
Dermal	LD50	> 2000 mg/kg (rabbit)
Inhalative	LC50/4 h	4910 mg/l (rat)
Sensitisation	Sensib.	sensib. (nd)

**41137-60-4 diurethandimethacrylate**

Oral	LD50	>5000 mg/kg (rat)
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**97-63-2 ethyl methacrylate**

Oral	LD50	14800 mg/kg (rat)
Dermal	LD50	> 2000 mg/kg (can)
Inhalative	LC50/4 h	38 mg/l (rat)

**5137-55-3 methyltrioctylammonium chloride**

Oral	LD50	223 mg/kg (rat)
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- **Primary irritant effect:**
  - **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.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
  - **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.

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**SECTION 12: Ecological information**

· **12.1 Toxicity**

· **Aquatic toxicity:**

**97-88-1 n-butyl methacrylate**

EC50/72h	31.2 mg/l (algae) (OECD 201)
EC50/48h	25.4 mg/l (daphnia) (OECD 202 Teil 1)
LC50/96h	5.57 mg/l (fish)

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 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.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

**SECTION 13: Disposal considerations**

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Small quantities can be polymerized with the matching system component(s) and the cured solid material can be disposed of with the regular garbage. Larger quantities must be disposed of following the regulations of the local authorities.

· **European waste catalogue**

18 01 06 | chemicals consisting of or containing dangerous substances

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport information**

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

1993

· **14.2 UN proper shipping name**

· **ADR**

1993 FLAMMABLE LIQUID, N.O.S. (not viscous)  
(BUTYL METHACRYLATE, STABILIZED, ETHYL  
METHACRYLATE, STABILIZED)

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· <b>IMDG, IATA</b>	FLAMMABLE LIQUID, N.O.S. (BUTYL METHACRYLATE, STABILIZED, ETHYL METHACRYLATE, STABILIZED)
· <b>14.3 Transport hazard class(es)</b>	
· <b>ADR</b>	
	
· <b>Class</b>	3 (F1) Flammable liquids.
· <b>Label</b>	3
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	3 Flammable liquids.
· <b>Label</b>	3
· <b>14.4 Packing group</b>	
· <b>ADR, IMDG, IATA</b>	III
· <b>14.5 Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>14.6 Special precautions for user</b>	Warning: Flammable liquids.
· <b>Kemler Number:</b>	30
· <b>EMS Number:</b>	F-E,S-E
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	-
· <b>UN "Model Regulation":</b>	UN1993, FLAMMABLE LIQUID, N.O.S., special provision 640E (n-BUTYL METHACRYLATE, STABILIZED, ETHYL METHACRYLATE, STABILIZED), 3, III

**SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

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· **National regulations**

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

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

25973-55-1 2-(2-Hydroxy-3,5-di-tert-pentylphenyl)-2H-benzotriazol

· **15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**

**SECTION 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.

H226 Flammable liquid and vapour.

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.

H335 May cause respiratory irritation.

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

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H413 May cause long lasting harmful effects to aquatic life.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport 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

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

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. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

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

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

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