Safety Data Sheet
acc. to OSHA HCS

Printing date 10/08/2020 Reviewed on 10/08/2020

*
1 Identification

· **Product identifier**

· **Trade name:** **Palavit G Liquid**

· **Application of the substance / the mixture** Manufacture of dental prothesis

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**
Kulzer GmbH
Leipziger Straße 2, 63450 Hanau (Germany) Tel.: +49 (0)800 4372522

· **Information department:**
Tel. +1 (800) 431-1785 Fax: +1 (800) 522-1545
e-mail: customer.servicehkna@kulzer-dental.com

· **Emergency telephone number:**
Emergency CONTACT (24-Hour-Number)
ID 105860: (domestic) 1 800 535 5053 or international (001) 352 323 3500

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2 Hazard(s) identification

· **Classification of the substance or mixture**

Flam. Liq. 2	H225	Highly flammable liquid and vapor.
Acute Tox. 4	H332	Harmful if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Carc. 2	H351	Suspected of causing cancer.
STOT SE 3	H335	May cause respiratory irritation.
STOT RE 2	H373	May cause damage to the reproductive system through prolonged or repeated exposure. Route of exposure: Oral.

· **Label elements**

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
methyl methacrylate
N,N-dimethyl-p-toluidine

· **Hazard statements**
Highly flammable liquid and vapor.
Harmful if inhaled.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.
May cause damage to the reproductive system through prolonged or repeated exposure.
Route of exposure: Oral.

· **Precautionary statements**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not breathe mist/vapours/spray.

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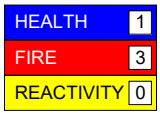
Wear protective gloves / eye protection.
If on skin: Wash with plenty of soap and water.
IF INHALED: Call a doctor if you feel unwell.

· **Classification system**
· **NFPA ratings for USA (scale 0-4)**

Health = 1
Fire = 3
Reactivity = 0

· **HMIS-Ratings (Scale 0-4)**



Health = 1
Fire = 3
Reactivity = 0

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

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** -

· **Dangerous components:**		
80-62-6	methyl methacrylate Flam. Liq. 2, H225 Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	>90%
99-97-8	N,N-dimethyl-p-toluidine Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330 Carc. 2, H351; STOT RE 2, H373	≥0.1-<5%

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

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4 First-aid measures

· **Description of first aid measures**
· **General information**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation** *Supply fresh air; consult doctor in case of complaints.*
· **After skin contact**
Immediately 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 a doctor.
· **After swallowing**
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.
· **Information for doctor** *Composition based on methacrylates*
· **Most important symptoms and effects, both acute and delayed**
No further relevant information available.

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· **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:**
Wear self-contained respiratory protective device.
Mount respiratory protective device.
· **Additional information** -

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:** Prevent seepage into sewage system, workpits and cellars.
· **Methods and material for containment and cleaning up:**
Absorb with liquid binding material (diatomite, universal binders, for small amounts tissues).
Dispose contaminated material as waste according to item 13.
· **Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
-

7 Handling and storage

· **Handling**
· **Precautions for safe handling**
Keep receptacles 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 receptacles:** Store in a cool location.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

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

· **Control parameters**

· Components with limit values that require monitoring at the workplace:	
80-62-6 methyl methacrylate	
PEL ()	410 mg/m³, 100 ppm
REL ()	410 mg/m³, 100 ppm
TLV ()	Short-term value: 410 mg/m³, 100 ppm Long-term value: 205 mg/m³, 50 ppm SEN
99-97-8 N,N-dimethyl-p-toluidine	
WEEL ()	0.5 ppm

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

· **Exposure controls**

· **Personal protective equipment**

· **General protective and hygienic measures**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of 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**
For the mixture of chemicals mentioned below the penetration time has to be at least 30 minutes (Permeation according to EN 16523-1:2015: Level 2).
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 goggles.

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

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
· **Form:**	Fluid
· **Color:**	Colorless
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
· **Melting point/Melting range:**	-48 °C (-54.4 °F)
· **Boiling point/Boiling range:**	100 °C (212 °F)
· **Flash point:**	10 °C (50 °F)
· **Flammability (solid, gaseous)**	Not applicable.
· **Ignition temperature:**	430 °C (806 °F)
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Explosion limits:**	
· **Lower:**	2.1 Vol %
· **Upper:**	12.5 Vol %
· **Vapor pressure at 20 °C (68 °F):**	47 hPa (35.3 mm Hg)
· **Density at 20 °C (68 °F):**	0.94 g/cm³ (7.8443 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
· **Water:**	Not miscible or difficult to mix
· **Partition coefficient (n-octanol/water) at 20 °C (68 °F):**	1.38 log POW
· **Viscosity:**	
· **dynamic:**	Not determined.
· **kinematic:**	Not determined.
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Possibility of hazardous reactions** Exothermic polymerization
· **Conditions to avoid** Heat, flames and sparks.
· **Incompatible materials:**
Reacts with reducing agents

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Reacts with heavy metals
Reacts with peroxides and other radical forming substances
· **Hazardous decomposition products:** none
· **Additional information:** -

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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 (rab) (OECD 402)
Inhalative	LC50/4 h	29.8 mg/l (rat)
99-97-8 N,N-dimethyl-p-toluidine		
Oral	LD50	139 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** No data available.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**
Irritant
Harmful

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
80-62-6	methyl methacrylate	3

· NTP (National Toxicology Program)
None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· Aquatic toxicity:	
80-62-6 methyl methacrylate	
EC50/48h	69 mg/l (daphnia)
LC50/96h	191 mg/l (fish)
99-97-8 N,N-dimethyl-p-toluidine	
LC50/96h	100 mg/l (fish)

· **Persistence and degradability** No further relevant information available.
· **Behavior 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 course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

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· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

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13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Disposal must be made according to official regulations.
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.
Non contaminated packagings can be used for recycling.

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14 Transport information

· **UN-Number**
· **DOT, ADR, IMDG, IATA** UN1247

· **UN proper shipping name**
· **DOT** METHYL METHACRYLATE MONOMER, STABILIZED, solution
· **ADR** 1247 METHYL METHACRYLATE MONOMER, STABILIZED, solution
· **IMDG** METHYL METHACRYLATE MONOMER, STABILIZED solution
· **IATA** Methyl methacrylate monomer, stabilized solution

· **Transport hazard class(es)**
· **DOT**

· **Class** 3 Flammable liquids
· **Label** 3

· **ADR**

· **Class** 3 (F1) Flammable liquids

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· **Label**	3
· **IMDG, IATA**	
· **Class**	3 Flammable liquids
· **Label**	3
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	II
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Flammable liquids
· **Hazard identification number (Kemler code):**	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 MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	-
· **ADR**	
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **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":**	UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, solution, 3, II

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15 Regulatory information

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

· **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**

80-62-6	methyl methacrylate

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· **Proposition 65**

· **Prop 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**

80-62-6	methyl methacrylate	NL

· **TLV (Threshold Limit Value established by ACGIH)**

80-62-6	methyl methacrylate	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **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 vapor.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to the reproductive system through prolonged or repeated exposure.
Route of exposure: Oral.

· **Date of preparation / last revision** 10/08/2020 / 3

· **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
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit

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REL: Recommended Exposure Limit
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 2: Acute toxicity – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 2: Carcinogenicity – Category 2
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.***