Safety data sheet
According to 91/155 EEC

Printing date 21.01.2013 Revision: 17.01.2013

Hazardous according to criteria of Australian Safety and Compensation Council

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

· **Product identifier**

· **Trade name: Palaseal**

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

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

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

· **Manufacturer/Supplier:**
Heraeus Kulzer GmbH
Grüner Weg 11, D-63450 Hanau Tel.: 0800 4372522

· **Informing department:**
Dr. Klaus Ruppert
Tel.: +49 6081 959-210
Fax: +49 6081 959-223
email: klaus.ruppert@heraeus.com

· **Emergency telephone number:**
Call "Poisoning Emergency Center Berlin": +49 30 30686 790 (24 hours, support in english and german language)

*
2 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Product based on methacrylates

· **Dangerous components:**

CAS: 80-62-6 EINECS: 201-297-1	methyl methacrylate Xi R37/38; Xi R43; F R11	25-50%
CAS: 40220-08-4 EINECS: 254-843-6	Tris(2-hydroxyethyl)-isocyanurat-triacrylat Xi R41	25-50%
CAS: 52408-84-1 NLP: 500-114-5	Oligotriacrylat Xi R36	5-10%
CAS: 75980-60-8 EINECS: 278-355-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphinoxid Xn R62 R52/53	0-5%

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

*
3 Hazards identification

· **Classification of the substance or mixture**

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Xi; Irritant
R37/38-41: Irritating to respiratory system and skin. Risk of serious damage to eyes.

Xi; Sensitising
R43: May cause sensitisation by skin contact.

F; Highly flammable
R11: Highly flammable.

· **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

(Contd. on page 2)

Safety data sheet
According to 91/155 EEC

Printing date 21.01.2013 Revision: 17.01.2013

Trade name: Palaseal

(Contd. of page 1)

· **Label elements**

· **Labelling according to EU guidelines:**
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

· **Code letter and hazard designation of product:**



Xi Irritant
F Highly flammable

· **Hazard-determining components of labelling:**
methyl methacrylate
Bisphenol A Diglycidylether Diacrylat (BADGE-DA)

· **Risk phrases:**
11 Highly flammable.
37/38 Irritating to respiratory system and skin.
41 Risk of serious damage to eyes.
43 May cause sensitisation by skin contact.

· **Special labelling of certain preparations:**
Contains methyl methacrylate, Bisphenol A Diglycidylether Diacrylat (BADGE-DA). May produce an allergic reaction.

· **Information pertaining to particular dangers for man and environment**

· **Safety phrases:**
9 Keep container in a well-ventilated place.
16 Keep away from sources of ignition - No smoking.
24 Avoid contact with skin.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37/39 Wear suitable gloves and eye/face protection.
60 This material and its container must be disposed of as hazardous waste.

*

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.
· **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.

*

5 Firefighting measures

· **Suitable extinguishing agents** CO2, sand, extinguishing powder. Do not use water.
· **For safety reasons unsuitable extinguishing agents**
Water.
Water with a full water jet.
· **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.

(Contd. on page 3)

Safety data sheet
According to 91/155 EEC

Printing date 21.01.2013 Revision: 17.01.2013

Trade name: Palaseal

(Contd. of page 2)

· **Additional information** -

*
6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **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 8 for information on personal protection equipment.
-

*
7 Handling and storage

· **Handling**
· **Precautions for safe handling**
Please observe the additional instructions in the product's instructions for use.
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/personal protection

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

· **Components with critical values that require monitoring at the workplace:**	
80-62-6 methyl methacrylate	
NES (Australia)	410 mg/m³, 100 ppm Sk, Sen
PEL (USA)	410 mg/m³, 100 ppm
REL (USA)	410 mg/m³, 100 ppm
TLV (USA)	Short-term value: 410 mg/m³, 100 ppm Long-term value: 205 mg/m³, 50 ppm SEN

· **DNELs**		
80-62-6 methyl methacrylate		
Dermal	worker, l.te., syst.	74.3 mg/Kg/d (human)
Inhalative	worker, l.te., syst.	210 mg/m3 (human)
4687-94-9 Bis-Glycidylacrylat		
Dermal	worker, l.te., syst.	17.5 mg/Kg/d (nd)
Inhalative	worker, l.te., syst.	122.5 mg/m3 (nd)

(Contd. on page 4)

Safety data sheet
According to 91/155 EEC

Printing date 21.01.2013 Revision: 17.01.2013

Trade name: Palaseal

(Contd. of page 3)

· **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 neccessary with efficient local exhaust. If exposition to vapours is possible, use breathing protective mask (filter A).
· **Protection of hands:**
If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization.
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
· **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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**
PVA gloves
· **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
Butyl rubber, BR
Fluorocarbon rubber (Viton)
Nitrile rubber, NBR
Chloroprene rubber, CR
· **Eye protection:** Protective goggles are recommended.
· **Body protection:** Light weight protective clothing

*

9 Physical and chemical properties

· **General Information**	
· **Appearance:**	
· **Form:**	Fluid
· **Colour:**	Yellow
· **Smell:**	Characteristic
· **Change in condition**	
· **Melting point/Melting range:**	Not determined
· **Boiling point/Boiling range:**	100 °C
· **Flash point:**	13 °C
· **Ignition temperature:**	430 °C
· **Self-inflammability:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapour mixtures is possible.

(Contd. on page 5)

Safety data sheet
According to 91/155 EEC

Printing date 21.01.2013 Revision: 17.01.2013

Trade name: Palaseal

(Contd. of page 4)

· **Critical values for explosion:**	
· **Lower:**	2.1 Vol %
· **Upper:**	12.5 Vol %
· **Steam pressure at 20 °C:**	47 hPa
· **Density at 20 °C**	1.060 g/cm³
· **Solubility in / Miscibility with**	
· **Water:**	Not miscible or difficult to mix
· **Viscosity:**	
· **dynamic at 20 °C:**	11 mPas
· **Solvent content:**	
· **Solids content:**	32.6 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Conditions to be avoided:** No decomposition if used and stored according to specifications.
· **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

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
80-62-6 methyl methacrylate		
Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rab)
Inhalative	LC50/4 h	29.8 mg/l (rat)
40220-08-4 Tris(2-hydroxyethyl)-isocyanurat-triacrylat		
Oral	LD50	>5000 mg/kg (rat)
4687-94-9 Bis-Glycidylacrylat		
Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
52408-84-1 Oligotriacrylat		
Oral	LD50	>2000 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Irritant for skin and mucous membranes.
· **on the eye:** Strong irritant with the danger of severe eye injury.
· **Sensitization:** Sensitization possible by skin contact.
· **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

(Contd. on page 6)

Safety data sheet
According to 91/155 EEC

Printing date 21.01.2013 Revision: 17.01.2013

Trade name: Palaseal

(Contd. of page 5)

12 Ecological information

· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour in environmental systems:**
· **Bioaccumulative potential** 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.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**	
18 01 06	chemicals consisting of or containing dangerous substances

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

*

14 Transport information

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

· **UN proper shipping name**
· **ADR** 1247 METHYL METHACRYLATE MONOMER, STABILIZED, solution
· **IMDG, IATA** METHYL METHACRYLATE MONOMER, STABILIZED, solution

· **Transport hazard class(es)**

· **ADR**



· **Class** 3 (F1) Flammable liquids.
· **Label** 3

· **IMDG, IATA**



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

· **Packing group**
· **ADR, IMDG, IATA** II

(Contd. on page 7)

Safety data sheet
According to 91/155 EEC

Printing date 21.01.2013 Revision: 17.01.2013

Trade name: Palaseal

(Contd. of page 6)

· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Flammable liquids.
· **Kemler Number:**	339
· **EMS Number:**	F-E,S-D
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	-
· **ADR**	
· **Limited quantities (LQ)**	1L
· **Transport category**	2
· **Tunnel restriction code**	D/E

*
15 Regulatory information

· **Designation according to EC guidelines:**
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

· **Code letter and hazard designation of product:**



Xi Irritant
F Highly flammable

· **Hazard-determining components of labelling:**
methyl methacrylate
Bisphenol A Diglycidylether Diacrylat (BADGE-DA)

· **Risk phrases:**
11 Highly flammable.
37/38 Irritating to respiratory system and skin.
41 Risk of serious damage to eyes.
43 May cause sensitisation by skin contact.

· **Safety phrases:**
9 Keep container in a well-ventilated place.
16 Keep away from sources of ignition - No smoking.
24 Avoid contact with skin.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37/39 Wear suitable gloves and eye/face protection.
60 This material and its container must be disposed of as hazardous waste.

· **Special designation of certain preparations:**
Contains methyl methacrylate, Bisphenol A Diglycidylether Diacrylat (BADGE-DA). May produce an allergic reaction.

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**
R11 Highly flammable.

(Contd. on page 8)

Safety data sheet
According to 91/155 EEC

Printing date 21.01.2013 Revision: 17.01.2013

Trade name: Palaseal

(Contd. of page 7)

R36 Irritating to eyes.
R37/38 Irritating to respiratory system and skin.
R41 Risk of serious damage to eyes.
R43 May cause sensitisation by skin contact.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62 Possible risk of impaired fertility.

· **Contact:**
Dr. Thiele Tel.: (+49) 6181 35-3012
email: ruediger.thiele@heraeus.com

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