

**Safety Data Sheet according to Regulation (EC) No.  
1907/2006 (REACH)**

Version: 1  
Replaces version:

Revision date: 12.02.2019  
from:

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

**1.1. Product identifier**

**GR-18.1 IB**

UV curable resin

CAS No.:  
EC No.:  
INDEX No.:  
REACH No.:

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

**Relevant identified uses:**      Manufacture.  
**Uses advised against:**        Private households (= general public).

**1.3. Details of the supplier of the safety data sheet**

**Manufacturer**

pro3dure medical GmbH

Am Burgberg 13  
D 58642 Iserlohn

**Telephone** +49 (0)2374 920050-10

**Telefax:** +49 (0)2374 920050-50

**Supplier**

pro3dure medical GmbH

Am Burgberg 13  
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**Information contact**

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**E-mail (competent person)** info@pro3dure.com  
**Website** www.pro3dure.com

**1.4. Emergency telephone number**

Diese Nummer ist nur zu Bürozeiten erreichbar

**Telephone** +49 (0)2374 920050-10

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**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008:

Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335

**2.2. Label elements**

**Classification according to Regulation (EC) No 1272/2008 [CLP]**

**Hazard pictograms**



**Signal word:** GHS07  
Warning

**Hazard statements:**

- H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

**Precautionary statements:**

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash .? thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302+352 IF ON SKIN: Wash with plenty of water/?.  
P304+340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a POISON CENTER/doctor/.?/if you feel unwell.  
P321 Specific treatment (see .? on this label).  
P332+313 If skin irritation occurs: Get medical advice/attention.  
P333+313 If skin irritation or rash occurs: Get medical advice/attention.  
P337+313 If eye irritation persists: Get medical advice/attention.  
P362+364 Take off contaminated clothing and wash it before reuse.  
P403+233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.  
P501 Dispose of contents/container to .?.

**Hazardous component(s) for labelling:**

xxx (Methacrylsäuretetrahydrofurfurylester); xxx (Diphenyl-(2,4,6-trimethylbenzoyl)phosphinoxid )

**Special labelling of particular preparations:**

none

**2.3. Other hazards**

Medical examination necessary even merely on suspicion of intoxication.

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

**3.1. Substances**

not applicable

**3.2. Mixtures**

Mixture related information

**Composition/information on ingredients**

Substance:	EC-no.:	CAS-No.:	INDEX no.:	REACH-no.:	Concentration:	Classification: EC 1272/2008 (CLP):
Esterification products of 4,4'-isopropylidenediphenol, ethoxylated and 2-methylprop-2-enoic acid	609-946-4	41637-38-1		01-2119980659-17-0000	< 50 %	Skin Irrit. 2, H315; Skin Sens. 1/1A/1B, H317; Eye Irrit. 2, H319; STOT SE 3, H335
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate	276-957-5	72869-86-4		01-2120751202-68-0000	< 50 %	Skin Sens. 1/1A/1B, H317
Methacrylsäuretetrahydrofurfurylester	219-529-5	2455-24-5	607-134-00-4	01-2120748481-53-0000	< 30 %	Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335
Diphenyl-(2,4,6-trimethylbenzoyl)phosphinoxid	278-355-8	75980-60-8		01-2119972295-29-0000	< 2 %	Repr. 2, H361

(Full text of H- and EUH-statements: see section 16.)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- General information:** In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Take off immediately all contaminated clothing.
- In case of inhalation:** Move victim to fresh air. Put victim at rest and keep warm. In case of irregular breathing or respiratory arrest provide artificial respiration. Position and transport victim on their side. In case of respiratory distress, bring into semi-upright, seated position. Call a physician immediately.
- Following skin contact:** After contact with skin, wash immediately with plenty of water and soap. Immerse in cold water for a prolonged period. Call a physician immediately.
- After eye contact:** In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.
- After ingestion:** Rinse mouth immediately and drink plenty of water. No administration in cases of unconsciousness or cramps. Do NOT induce vomiting. Call a physician immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

No known symptoms to date.

### 4.3. Indication of any immediate medical attention and special treatment needed

No special measures are necessary.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media** dry extinguishing powder. Carbon dioxide (CO<sub>2</sub>).
- Unsuitable extinguishing media** Water fog. High power water jet. Water.

### 5.2. Special hazards arising from the substance or mixture

Vapours may form explosive mixtures with air. In case of fire may be liberated: Pyrolysis products, toxic.

### 5.3. Advice for firefighters

**General information**

Co-ordinate fire-fighting measures to the fire surroundings. Use water spray jet to protect personnel and to cool endangered containers. Move undamaged containers from immediate hazard area if it can be done safely.

**Special protective equipment for fire-fighters:**

In case of fire: Use acid-proof equipment only. Wear a self-contained breathing apparatus and chemical protective clothing.

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## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment. Remove persons to safety. Provide adequate ventilation. Keep away from unprotected people. Keep upwind.

### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

### 6.3. Methods and material for containment and cleaning up

Treat the recovered material as prescribed in the section on waste disposal.

### 6.4. Reference to other sections

Safe handling: see section 7 Personal protection equipment: see section 8 Disposal: see section 13

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Advices on safe handling**

Avoid contact with skin and eyes. Do not breathe gas/fumes/vapour/spray.

**Precautions against fire and explosion:**

Take precautionary measures against static discharges.

### 7.2. Conditions for safe storage, including any incompatibilities

**Requirements for storage rooms and vessels**

Keep container tightly closed. Restrict access to stockrooms.

**Hints on joint storage**

Do not store together with: metal. Keep away from food, drink and animal feedingstuffs.

### 7.3. Specific end use(s)

Observe instructions for use.

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**occupational exposure limit value**

Substance:	CAS-No.:	Source:	Occupational exposure limit value:[ppm]	Occupational exposure limit value:[mg/m <sup>3</sup> ]	Limitation of exposure peaks:	Remark:

Substance with a common (EC) occupational exposure limit value.

Substance:	CAS-No.:	Source:	Occupational exposure limit value:[ppm]	Occupational exposure limit value:[mg/m <sup>3</sup> ]	Limitation of exposure peaks:	Remark:
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## DNEL-/PNEC-values

### DNEL value

Substance:	CAS-No.:	DNEL/DMEL
Esterification products of 4,4'-isopropylidenediphenol, ethoxylated and 2-methylprop-2-enoic acid	41637-38-1	worker inhalative xxx(systemisch) 3,52 mg/m <sup>3</sup> worker dermal xxx(systemisch) 2 xxx(mg/m <sup>3</sup> /24h) xxx(Verbraucher) inhalative xxx(systemisch) 870 µg/m <sup>3</sup> xxx(Verbraucher) dermal xxx(systemisch) 1 xxx(mg/m <sup>3</sup> /24h) xxx(Verbraucher) xxx(systemisch) 500 xxx(µg/m <sup>3</sup> /24h)
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	worker inhalative xxx(systemisch) 3,3 mg/m <sup>3</sup> worker dermal xxx(systemisch) 1,3 xxx(mg/kg bw /24h) xxx(Verbraucher) inhalative xxx(systemisch) 0,6 mg/m <sup>3</sup> xxx(Verbraucher) dermal xxx(systemisch) 0,7 xxx(mg/kg bw/24h) xxx(Verbraucher) xxx(systemisch) 0,3 xxx(mg/kg bw/24h)

### PNEC Value

Substance:	CAS-No.:	PNEC
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	xxx(Süßwasser) 0,01 mg/l xxx(Meerwasser) 0,001 mg/l xxx(Kläranlagen) 3,61 mg/l xxx(Süßwassersediment) 4,56 xxx(mg/kg Sediment) xxx(Meeressediment) 0,46 xxx(mg/kg Sediment) soil 0,91 xxx(mg/kg Boden)

### Additional information

Does not contain substances above concentration limits fixing an occupational exposure limit.

## 8.2. Exposure controls

### Occupational exposure controls:

Provide adequate ventilation as well as local exhaustion at critical locations. Technical measures and the application of suitable work processes have priority over personal protection equipment.

### General protection and hygiene measures:

When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Apply skin care products after work. Wash contaminated clothing prior to re-use.

### Personal protection equipment

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

### Respiratory protection

Respiratory protection necessary at: Formation of aerosol. Suitable respiratory protection apparatus: Combination filter device (DIN EN 141)..

### Hand protection

Tested protective gloves are to be worn: DIN-/EN-Norms: DIN EN 374

### Eye/face protection

Tightly sealed safety glasses. Eye-shade.

### Body protection:

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes). Only wear fitting, comfortable and clean protective clothing. Barrier creams are not substitutes for body protection.

### Environmental exposure controls

refer to chapter 7. No further action is necessary.

### Consumer exposure controls

refer to chapter 7. No further action is necessary.

### Exposure Scenario:

none

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**Appearance**

**Physical state:** Liquid  
**Colour:** various  
**Odour:** characteristic like: ester  
**Odour threshold:** No data available

**Safety relevant basis data**

	parameter	Value	unit	Remark
pH:				No data available
Melting point/freezing point:				No data available
Initial boiling point and boiling range:				No data available
Flash point:				No data available
Evaporation rate:				No data available
Flammability (solid, gas):				No data available
Explosivity:				No data available
Upper flammability or explosive limits:				No data available
lower flammability or explosive limits:				No data available
Vapour pressure:				No data available
Vapour density:				No data available
Relative density:	at room temperature	ca. 1,1	g/mL	
Density:				No data available
Soluble (g/L) in:				No data available
Water solubility (g/L):				No data available
Fat solubility (g/L):				No data available
Partition coefficient: n-octanol/water:				No data available
Ignition temperature:				No data available
Decomposition temperature:				No data available
Viscosity:	at room temperature	ca. 2	(Pas)	
Oxidizing properties:				No data available

### 9.2. Other information

none

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Vapours may form explosive mixtures with air.

### 10.2. Chemical stability

Decomposition with: UV-radiation/sunlight. heat.

### 10.3. Possibility of hazardous reactions

Vapours may form explosive mixtures with air.

### 10.4. Conditions to avoid

heat. UV-radiation/sunlight.

### 10.5. Incompatible materials

Alkalis (alkalis). metal.

### 10.6. Hazardous decomposition products

In case of fire may be liberated: Phosphorus oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

There are no data available on the preparation/mixture itself.

**M-factor:** -

**Acute toxicity (dermal):** -

**Acute toxicity (oral):** -

**Acute toxicity (inhalative):** -

#### Acute toxicity

Substance:	CAS-No.:	Toxicological information
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	LD50 oral (rat) > 5000 mg/kg
Diphenyl-(2,4,6-trimethylbenzoyl)phosphinoxid	75980-60-8	
Methacrylsäuretetrahydrofurfurylester	2455-24-5	
Esterification products of 4,4'-isopropylidenediphenol, ethoxylated and 2-methylprop-2-enoic acid	41637-38-1	LD50 oral (rat) 2000 mg/kg XXX 2000 mg/kg

#### Skin corrosion/irritation:

irritant.

#### Serious eye damage/irritation:

strongly irritant.

#### Respiratory or skin sensitisation:

May cause an allergic skin reaction.

#### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity:

No indications of human carcinogenicity exist.

Germ cell mutagenicity:

No indications of human germ cell mutagenicity exist.

Reproductive toxicity:

No indications of human reproductive toxicity exist.

#### STOT-single exposure:

The following symptoms may occur: Corneal opacity. Coughing.

#### STOT-repeated exposure:

none

#### Aspiration hazard:

irritant.

## SECTION 12: Ecological information

## 12.1. Toxicity

none

### Ecotoxicity

Substance:	CAS-No.:	Ecotoxicity
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	> 1,2 mg/l > 0,68 mg/l
Diphenyl-(2,4,6-trimethylbenzoyl)phosphinoxid	75980-60-8	
Methacrylsäuretetrahydrofurfurylester	2455-24-5	
Esterification products of 4,4'-isopropylidenediphenol, ethoxylated and 2-methylprop-2-enoic acid	41637-38-1	LC50 (fish, 96 h) 100 mg/l LC50 (crustaceans, 48h) 6 mg/l XXX 100 mg/l

## 12.2. Persistence and degradability

Not easily bio-degradable (according to OECD-criteria).

## 12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

## 12.4. Mobility in soil

If product enters soil, it will be mobile and may contaminate groundwater.

## 12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

## 12.6. Other adverse effects

none

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Appropriate disposal/Product:

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

#### Appropriate disposal / Package

Can be incinerated together with household waste in compliance with applicable technical regulations following consultation with approved waste disposal management companies and authorities in charge.

#### List of proposed waste codes / waste designations according to EWC / AVV

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Waste key product: -

Waste key packaging: -

## SECTION 14: Transport information

### 14.1. UN number

UN No.: -

### 14.2. UN proper shipping name

Land transport (ADR/RID)

-

-

Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)

-  
-

#### 14.3. Transport hazard class(es)

Hazard label(s) / Label: - Classification code: / Classification Code: -

#### 14.4. Packing group

Packing group/ Packing Group: -

#### 14.5. Environmental hazards

	Yes	No
ADR/RID / IMDG / ICAO-TI / IATA-DGR:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Marine pollutant:	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 14.6. Special precautions for user

Land transport (ADR/RID)		
transport category:	-	tunnel restriction code: -
Special provisions:	-	Limited quantity (LQ): -

#### Sea transport (IMDG)

EmS-No: -  
Special provisions: - Limited quantity (LQ): -

#### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remark none

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### EU legislation

Information on Regulation (EC) No 166/2006 establishing a European Pollutant Release and Transfer Register:  
not relevant

Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer:  
not relevant

Regulation (EC) No. 648/2004 (Detergents regulation)  
not relevant

Regulation (EC) No 850/2004 [POP-Regulation]:  
not relevant

Regulation (EU) No 649/2012 on the export and import of dangerous chemicals:  
not relevant

Use restriction according to REACH annex XVII, no.::  
Use restriction according to REACH annex XVII, no.:

##### National regulations

Observe in addition any national regulations!

#### **Restrictions of occupation**

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. According to directive 94/33/EC, juveniles are only allowed to handle this product as long as all effects of dangerous substances are prevented.

#### **Other regulations, restrictions and prohibition regulations**

none

### **15.2. Chemical Safety Assessment**

**For this preparation a chemical safety assessment has been carried out.** -

For this substance a chemical safety assessment is not required.

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## **SECTION 16: Other information**

#### **Relevant H- and EUH-phrases (Number and full text):**

##### **Hazard statements**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

#### **Training advice**

Make sure that employees are aware of the intoxication risk. People wearing breathing apparatus must be appropriately trained.

#### **Recommended restrictions of use:**

refer to chapter 1.

#### **Further remarks:**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

#### **Documentation of changes:**

none

#### **Key literature references and sources for data**

Data arise from reference works and literature.

#### **Abbreviations and acronyms**

none