

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

1.1. Product identifier

printodent® 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

pro3dure medical GmbH

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

1.4. Emergency telephone number

This number is serviced during office hours.

Telephone +49 (0)2374 920050-10

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



GHS07
Warning

Signal word:

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 with water 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.
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 according to official regulations.

Hazardous component(s) for labelling:

Methacrylic acid tetrahydrofurfuryl ester; Diphenyl-(2,4,6-trimethylbenzoyl)phosphinoxide

Special labelling of particular preparations:

None

2.3. Other hazards

Medical examination necessary even merely on suspicion of intoxication.

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 (CO₂).
- 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.

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

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.

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 ³]	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 ³]	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 (systemic) 3,52 mg/m ³ worker dermal (systemic) 2 (mg/m ³ /24h) consumer inhalative (systemic) 870 µg/m ³ consumer dermal (systemic) 1 (mg/m ³ /24h) consumer (systemic) 500 (µg/m ³ /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 (systemic) 3,3 mg/m ³ worker dermal (systemic) 1,3 (mg/kg bw /24h) consumer inhalative (systemic) 0,6 mg/m ³ consumer dermal (systemic) 0,7 (mg/kg bw/24h) consumer (systemic) 0,3 (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	(fresh water) 0,01 mg/l (sea water) 0,001 mg/l (sewage treatment plants) 3,61 mg/l (freshwater sediment) 4,56 (mg/kg sediment) (marine sediment) 0,46 (mg/kg sediment) soil 0,91 (mg/kg soil)

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-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	LD50 oral (rat) > 5000 mg/kg
Esterification products of 4,4'-isopropylidenediphenol, ethoxylated and 2-methylprop-2-enoic acid	41637-38-1	LD50 oral (rat) 2000 mg/kg LD50 dermal 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-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	> 1,2 mg/l > 0,68 mg/l
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 EC50 algae 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

ADR/RID / IMDG / ICAO-TI / IATA-DGR:
Marine pollutant:

Yes

No

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.

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