SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

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

1.1. Product identifier

Trade name/designation:

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Article No.:
48410 / 48411

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

Use of the substance/mixture:
3 D Druckkunststoff für die additive Herstellung von Interimsprothesen
Only to be used in the 3 D printer and by trained personnel

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

dentona AG
Feldbachacker 16
44149 Dortmund
Germany
Telephone: 0231-5556-0
Telefax: 0231-5556-30
E-mail: info@dentona.de
Website: www.dentona.com

1.4. Emergency telephone number

No data available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Skin corrosion/irritation *(Skin Irrit. 2)*	H315: Causes skin irritation.	Calculation method.
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	Calculation method.
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	Calculation method.
Acute toxicity (inhalative) *(Acute Tox. 4)*	H332: Harmful if inhaled.	Calculation method.
STOT-single exposure *(STOT SE 3)*	H335: May cause respiratory irritation.	Calculation method.
Hazardous to the aquatic environment *(Aquatic Chronic 2)*	H411: Toxic to aquatic life with long lasting effects.	Calculation method.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:

GHS07
Exclamation mark

GHS09
Environment

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Signal word: Warning

Hazard statements for health hazards	
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Hazard statements for environmental hazards	
H411	Toxic to aquatic life with long lasting effects.

Supplemental hazard information	
EUH208	Contains 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate, Triethylene glycol Dimethacrylate. May produce an allergic reaction.

Precautionary statements Prevention	
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/....

Precautionary statements Response	
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

Special rules for supplemental label elements for certain mixtures:
43,5 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (oral).
64,7 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (dermal).
78,0 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (inhalative).
43,5 % percent of the mixture consists of components of unknown hazards to the aquatic environment.

2.3. Other hazards
No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
	Aliphatic urethane trifunctional acrylate/methacrylate The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].	19 – < 40 weight-%
CAS No.: 25852-47-5	**Polyethylene glycol 200 Dimethacrylate** Aquatic Chronic 3 (H412) **Acute Toxicity Estimate** ATE (oral) > 2,000 mg/kg	13 – < 22.69 weight-%
CAS No.: 5888-33-5 EC No.: 227-561-6 REACH No.: 01-2119957862-25-XXXX	**Isobornyl acrylate** Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Eye Irrit. 2 (H319), STOT SE 3 (H335), Skin Irrit. 2 (H315), Skin Sens. 1B (H317)  Warning M-factor (acute): 1 M-factor (chronic): 1 **Acute Toxicity Estimate** ATE (oral) 4,350 mg/kg ATE (dermal) > 3,000 mg/kg ATE (inhalation, vapour) = 4,890 mg/L	12 – < 21.28 weight-%

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Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 27813-02-1 EC No.: 248-666-3	**Methacrylic acid, monoester with propan-1,2-diol** Eye Irrit. 2 (H319), Skin Sens. 1 (H317) Warning **Acute Toxicity Estimate** ATE (oral) ≥ 2,000 mg/kg ATE (dermal) > 5,000 mg/kg	5 – < 9.37 weight-%
CAS No.: 3290-92-4 EC No.: 221-950-4 REACH No.: 01-2119542176-41-XXXX	**Trimethylolpropane trimethacrylate** Aquatic Chronic 2 (H411) **Acute Toxicity Estimate** ATE (oral) > 2,000 mg/kg ATE (dermal) > 2,000 mg/kg	2 – < 5 weight-%
CAS No.: 75980-60-8 EC No.: 278-355-8 Index No.: 015-203-00-X REACH No.: 01-2119972295-29-XXXX	**diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide** *Candidate List of Substances of Very High Concern for Authorisation!* Repr. 2 (H361f) Warning **Acute Toxicity Estimate** ATE (oral) > 5,000 mg/kg ATE (dermal) > 2,000 mg/kg ATE (inhalation, dust/mist) > 2,000 mg/L	0 – ≤ 1 weight-%
CAS No.: 72869-86-4 EC No.: 276-957-5 REACH No.: 01-2120751202-68-XXXX	**7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate** Aquatic Chronic 2 (H411), Skin Sens. 1B (H317) Warning **Acute Toxicity Estimate** ATE (oral) > 5,000 mg/kg ATE (dermal) > 2,000 mg/kg	0 – ≤ 0.28635 weight-%
CAS No.: 108-88-3 EC No.: 203-625-9 Index No.: 601-021-00-3 REACH No.: 01-2119957862-25-XXXX	**toluene** Asp. Tox. 1 (H304), Flam. Liq. 2 (H225), Repr. 2 (H361d***), STOT RE 2 (H373**), STOT SE 3 (H336), Skin Irrit. 2 (H315) Danger	0 – < 0.05 weight-%
CAS No.: 110-82-7 EC No.: 203-806-2 Index No.: 601-017-00-1	**cyclohexane** Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Asp. Tox. 1 (H304), Flam. Liq. 2 (H225), STOT SE 3 (H336), Skin Irrit. 2 (H315) Danger	0 – < 0.03 weight-%
CAS No.: 112945-52-5 EC No.: 231-545-4 REACH No.: 01-2119379499-16-0000	**Siliciumdioxid, auf chemischem Wege gewonnen** The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP]. **Acute Toxicity Estimate** ATE (oral) > 5,000 mg/kg ATE (dermal) > 5,000 mg/kg ATE (inhalation, vapour) ≥ 0.139 mg/L ATE (inhalation, dust/mist) 0.12 mg/L	0 – < 0.008 weight-%

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

When in doubt or if symptoms are observed, get medical advice.I In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victim out of the danger area. Remove contaminated, saturated clothing. If unconscious but breathing normally, place in recovery position and seek medical advice. Do not leave affected person unattended.

Following inhalation:

In case of irritation of the respiratory tract by the product: Consult a doctor Provide fresh air. In case of respiratory tract irritation, consult a physician. Get medical advice/attention. Get medical advice/ attention if you feel unwell.

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In case of skin contact:
Wash off with plenty of soap and water and rinse. After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention. Take off immediately all contaminated clothing.

After eye contact:
In case of contact with eyes, remove contact lenses and immediately rinse with running water for 10 to 15 minutes with the eyelids open and consult an ophthalmologist. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Following ingestion:
Rinse mouth. Let 1 glass of water be drunken in little sips (dilution effect). Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person or a person with cramps. Avoid vomiting

Self-protection of the first aider:
Remove contaminated, saturated clothing.Use personal protection equipment. No direct artificial respiration to be given by first aider.

4.2. Most important symptoms and effects, both acute and delayed
Skin contact: May cause allergic skin reactions.
Allergic reactions: Severe eye irritation/irritation
Skin corrosion/irritation Allergic reactions Serious eye damage/eye irritation Irritation to respiratory tract

4.3. Indication of any immediate medical attention and special treatment needed
Note to doctor: Treat symptomatically. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
Water spray, foam, dry extinguisher or carbon dioxide.

Unsuitable extinguishing media:
Do not use water jet as extinguishing agent as this will spread the fire.

5.2. Special hazards arising from the substance or mixture
Thermal decomposition or combustion products may contain the following substances: Carbon oxides.

Hazardous combustion products:
In case of fire: Gases/vapours, toxic

5.3. Advice for firefighters
Protective measures during firefighting: No actions should be taken without appropriate training or that involve personal risk.Wear a self-contained breathing apparatus and chemical protective clothing.

5.4. Additional information
Special protective equipment for fire fighters: Wear positive pressure breathing apparatus (SCBA) and suitable protective clothing. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Personal precautions:
Wear suitable protective clothing, including gloves, goggles / face shield, respirator, boots, clothing or apron, as appropriate, when working. Wear suitable respiratory protection if ventilation is inadequate. Remove persons to safety.

Protective equipment:
Wear protective gloves/protective clothing/eye protection/face protection.

6.1.2. For emergency responders
Personal protection equipment:
Personal protection equipment: see section 8

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6.2. Environmental precautions

Environmental precautions Avoid release to the environment. Do not allow to enter drains or water courses. Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment:

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up:

Do not smoke, no sparks, flames or other sources of ignition near spills. Bind spilled material with sand or other inert absorbent. Collect and place in a suitable disposal container and seal securely. Containers with collected spilled material must be properly hazard labelled. Spills must be collected and disposed of according to the instructions in chapter 13.

6.4. Reference to other sections

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

6.5. Additional information

Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

Protective measures during use: Avoid contact with eyes and skin. Wash contaminated skin thoroughly after handling. Wear suitable protective equipment at work in case of prolonged exposure and / or high concentrations of the vapours, spray or mist.
Wear personal protection equipment (refer to section 8).

Fire prevent measures:

Keep away from heat, sparks and open flame. Mechanical extraction is required if dust is released during handling. Open and handle containers with care.

Advices on general occupational hygiene

Do not eat, drink or smoke when using this product. Do not eat, drink, smoke or snort in the workplace. Avoid contact with skin, eyes and clothing.
When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Keep container tightly closed in a cool, well-ventilated place.

Requirements for storage rooms and vessels:

Store at temperatures between 5°C and 30°C. Protect from frost and direct sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Do not smoke.

Storage class (TRGS 510, Germany): 10 – Combustible liquids that cannot be assigned to any of the above storage classes

7.3. Specific end use(s)

Recommendation:

The intended uses of this product are described in section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
TRGS 900 (DE) from 1 Jul 2012	**Butylated hydroxytoluene** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³ ② 40 mg/m³ ⑤ (Aerosol und Dampf, einatembare Fraktion) DFG, Y, 11
TRGS 900 (DE) from 2 Jul 2021	**toluene** CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (190 mg/m³) ② 100 ppm (380 mg/m³) ⑤ (kann über die Haut aufgenommen werden) DFG, EU, H, Y
TRGS 900 (DE)	**cyclohexane** CAS No.: 110-82-7 EC No.: 203-806-2	① 200 ppm (700 mg/m³) ② 800 ppm (2,800 mg/m³) ⑤ DFG, EU
DFG (DE) from 1 Jul 2022	**Siliciumdioxid, auf chemischem Wege gewonnen** CAS No.: 112945-52-5 EC No.: 231-545-4	① 0.02 mg/m³ ② 1.6 mg/m³ ⑤ (alveolengängige Fraktion)
TRGS 900 (DE)	**Siliciumdioxid, auf chemischem Wege gewonnen** CAS No.: 112945-52-5 EC No.: 231-545-4	① 4 mg/m³ ⑤ (einatembare Fraktion) DFG, 2, Y

8.1.2. Biological limit values

Limit value type (country of origin)	Substance name	Limit value	① Parameter ② Test material ③ Time of sampling: ④ Remark
TRGS 903 (DE) from 1 Nov 2012	**toluene** CAS No.: 108-88-3 EC No.: 203-625-9	1.5 mg/L	① o-Kresol ② Urin ③ bei Langzeitexposition, Expositionsende bzw. Schichtende
TRGS 903 (DE) from 13 Jan 2021	**toluene** CAS No.: 108-88-3 EC No.: 203-625-9	0.6 mg/L	① Toluol ② Blut ③ unmittelbar nach Exposition
TRGS 903 (DE) from 28 Mar 2019	**toluene** CAS No.: 108-88-3 EC No.: 203-625-9	75 µg/L	① Toluol ② Urin ③ Expositionsende bzw. Schichtende
TRGS 903 (DE) from 1 Nov 2012	**cyclohexane** CAS No.: 110-82-7 EC No.: 203-806-2	150 mg/g Creatinin	① 1,2-Cyclohexandiol, Nach Hydrolyse: ② Urin ③ bei Langzeitexposition, Expositionsende bzw. Schichtende

8.1.3. DNEL-/PNEC-values

No data available

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8.2. Exposure controls

8.2.1. Appropriate engineering controls

Ensure sufficient room ventilation and local exhaust ventilation. The occupational exposure limits of the product or the ingredients must be observed.

8.2.2. Personal protection equipment

Eye/face protection:

Eye protection conforming to a recognised standard should be worn if a risk assessment indicates that eye contact is possible. The following personal protective clothing should be worn: Frame goggles with side shields. DIN EN 166

Eye glasses with side protection EN 166

Skin protection:

Avoid contact with the skin. Wear suitable clothing to prevent possible skin contact.
Wear protective gloves. According to the data provided by the protective glove manufacturers, it is necessary to check during their use whether the gloves retain their repellent properties and to change them as soon as damage is detected. For exposures up to 8 hours, wear protective gloves made of the following material: nitrile rubber.

Tested protective gloves must be worn EN ISO 374 Suitable material: Breakthrough time: min In the case of wanting to use the gloves again, clean them before taking off and air them well. Breakthrough times and swelling properties of the material must be taken into consideration.

Respiratory protection:

Suitable respiratory protection must be worn if ventilation is inadequate. Wear a respirator with full face shield and the following filter cartridge: Filter against organic vapours. High efficiency particulate filters.

Other protection measures:

Wash contaminated skin thoroughly after handling. Wash contaminated clothing and skin immediately with plenty of water before removing clothing. Remove all contaminated clothing immediately and wash before wearing again. Do not wear contaminated work clothing outside the workplace. Do not eat, drink or smoke when using this product.

8.2.3. Environmental exposure controls

No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid
Colour: pink
Odour: ester
flammability: Yes

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	6 – 8	25 °C	
Melting point	*No data available*		
Freezing point	*No data available*		
Initial boiling point and boiling range	*No data available*		
Flash point	> 70 °C		
Evaporation rate	*No data available*		
Auto-ignition temperature	*No data available*		

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Parameter	Value	at °C	① Method ② Remark
Upper/lower flammability or explosive limits	*No data available*		
Vapour pressure	*No data available*		
Vapour density	*No data available*		
Density	*No data available*		
Relative density	1.03 – 1.08	25 °C	
Bulk density	*not applicable*		
Water solubility	*No data available*		
Dynamic viscosity	*No data available*		
Kinematic viscosity	*No data available*		

9.2. Other information
No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
There is no information available

10.2. Chemical stability
Stable at normal room temperatures

10.3. Possibility of hazardous reactions
Can polymerise

10.4. Conditions to avoid
Reaction with light, risk of polymerisation. Protect from heat, flames and other ignition sources.
Do not expose to high temperatures or direct sunlight.
Avoid contact with Avoid contact with strong oxidising agents.

10.5. Incompatible materials
Keep away from free-radical initiators, peroxides, strongly alkaline substances and reactive metals to avoid exothermic polymerisation reactions.

10.6. Hazardous decomposition products
Carbon oxides

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate CAS No.: 72869-86-4 EC No.: 276-957-5
LD_{50} oral: >5,000 mg/kg (Ratte)
LD_{50} dermal: >2,000 mg/kg (Ratte)
Siliciumdioxid, auf chemischem Wege gewonnen CAS No.: 112945-52-5 EC No.: 231-545-4
ATE oral: ≥1,000 mg/kg
LD_{50} oral: >5,000 mg/kg (Ratte) OECD 401
LD_{50} dermal: >5,000 mg/kg (Kaninchen)
LC_{50} Acute inhalation toxicity (vapour): ≥0.139 mg/L 4 h (Rat)
LC_{50} Acute inhalation toxicity (dust/mist): 0.12 mg/L 4 h (Rat)
Polyethylene glycol 200 Dimethacrylate CAS No.: 25852-47-5
LD_{50} oral: >2,000 mg/kg (Rat)

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Isobornyl acrylate CAS No.: 5888-33-5 EC No.: 227-561-6	
LD_{50} oral: 4,350 mg/kg	
LD_{50} dermal: >3,000 mg/kg	
LC_{50} Acute inhalation toxicity (vapour): =4,890 mg/L (Rat)	
Methacrylic acid, monoester with propan-1,2-diol CAS No.: 27813-02-1 EC No.: 248-666-3	
LD_{50} oral: ≥2,000 mg/kg	
LD_{50} dermal: >5,000 mg/kg	
Trimethylolpropane trimethacrylate CAS No.: 3290-92-4 EC No.: 221-950-4	
LD_{50} oral: >2,000 mg/kg (Ratte)	
LD_{50} dermal: >2,000 mg/kg (Ratte)	
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide CAS No.: 75980-60-8 EC No.: 278-355-8	
LD_{50} oral: >5,000 mg/kg (Ratte)	
LD_{50} dermal: >2,000 mg/kg (Ratte)	
LC_{50} Acute inhalation toxicity (dust/mist): >2,000 mg/L (Rat)	

Acute oral toxicity:
Based on available data, the classification criteria are not met.

Acute dermal toxicity:
Based on available data, the classification criteria are not met.

Acute inhalation toxicity:
Harmful if inhaled.

Skin corrosion/irritation:
Causes skin irritation.

Serious eye damage/irritation:
Causes serious eye irritation.

Respiratory or skin sensitisation:
May cause an allergic skin reaction. Contains 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate, Triethylene glycol Dimethacrylate. May produce an allergic reaction.

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.

Additional information:
No data available

11.2. Information on other hazards
No data available

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SECTION 12: Ecological information

12.1. Toxicity

7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate CAS No.: 72869-86-4 EC No.: 276-957-5
LC_{50}: 16.4 mg/L 4 d (fish)
EC_{50}: 51.9 mg/L 3 d (fish, fish)
EC_{50}: 51.9 mg/L 3 d (fish)
Siliciumdioxid, auf chemischem Wege gewonnen CAS No.: 112945-52-5 EC No.: 231-545-4
LC_{50}: >10,000 mg/L 4 d (crustaceans, Brachydanio rerio)
EC_{50}: >1,000 mg/L 1 d (fish, Daphnia magna)
LC_{50}: >10,000 mg/L 4 d (Danio rerio (zebrafish))
EC_{50}: >10,000 mg/L 1 d (Daphnia magna (Wasserfloh))
LC_{50}: ≥0.07 mg/L 21 d (crustaceans, Daphnia magna, Danio rerio (zebrafish)) OECD 211
EC_{50}: >0.412 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus) OECD 201
NOEC: ≥0.07 mg/L 21 d (crustaceans, Daphnia magna) OECD 211
ErC_{50}: 10 – 100 mg/L (Algae/water plant) OECD 201
ErC_{50}: 12.2 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus)
Polyethylene glycol 200 Dimethacrylate CAS No.: 25852-47-5
LC_{50}: 19.02 mg/L 4 d (fish, Oryzias latipes)
EC_{50}: ≥100 mg/L 2 d (crustaceans)
LC_{50}: 19.02 mg/L 4 d (fish, fish)
EC_{50}: ≥100 mg/L 2 d (crustaceans, shellfish)
Isobornyl acrylate CAS No.: 5888-33-5 EC No.: 227-561-6
LC_{50}: 0.704 mg/L 4 d (fish, Brachydanio rerio)
LC_{50}: =1.98 mg/L 3 d (Algae/water plant, Mikroorganismen)
NOEC: =0.704 mg/L 4 d (fish) OECD211
NOEC: =0.092 mg/L 21 d (crustaceans) OECD 201
NOEC: 0.405 mg/L 3 d (fish, Pseudokirchneriella subcapitata)
Methacrylic acid, monoester with propan-1,2-diol CAS No.: 27813-02-1 EC No.: 248-666-3
NOEC: >97.2 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata)
NOEC: 45.2 mg/L 21 d (Daphnia magna)
LC_{50}: 493 mg/L 2 d (fish, Leuciscus idus (Goldorfe))
EC_{50}: >143 mg/L 2 d (Daphnia magna)
NOEC: 45.2 mg/L
LC_{50}: 493 mg/L 2 d (fish, Leuciscus idus (golden orfe))
Trimethylolpropane trimethacrylate CAS No.: 3290-92-4 EC No.: 221-950-4
LC_{50}: 2 mg/L 4 d (fish, Regenbogenforelle)
EC_{50}: >1,000 mg/L (Algae/water plant, Alge)
EC_{50}: >9.22 mg/L 2 d (crustaceans, Daphnia magna)
NOEC: 0.177 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata)
NOEC: 0.177 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide CAS No.: 75980-60-8 EC No.: 278-355-8
LC_{50}: =6.53 mg/L 2 d (fish, Oryzias latipes)
LC_{50}: 10 mg/L 4 d (fish, Danio rerio)
LC_{50}: 6.53 mg/L 2 d (Oryzias latipes)
EC_{50}: >2.01 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata, Oryzias latipes (Mikroorganismen))
EC_{50}: >1,000 mg/L (Activated sludge)
EC_{50}: =3.53 mg/L 2 d (Algae/water plant, Daphnia magna)

Aquatic toxicity:
Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate CAS No.: 72869-86-4 EC No.: 276-957-5
Biodegradation: Poorly biodegradable.
Isobornyl acrylate CAS No.: 5888-33-5 EC No.: 227-561-6
Biodegradation: Poorly biodegradable.
Methacrylic acid, monoester with propan-1,2-diol CAS No.: 27813-02-1 EC No.: 248-666-3
Biodegradation: Yes, rapidly
Trimethylolpropane trimethacrylate CAS No.: 3290-92-4 EC No.: 221-950-4
Biodegradation: Yes, rapidly

12.3. Bioaccumulative potential

7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate CAS No.: 72869-86-4 EC No.: 276-957-5
Log K_{OW}: 3.39
toluene CAS No.: 108-88-3 EC No.: 203-625-9
Log K_{OW}: 2.73
Isobornyl acrylate CAS No.: 5888-33-5 EC No.: 227-561-6
Log K_{OW}: 4.52
Bioconcentration factor (BCF): 37
Methacrylic acid, monoester with propan-1,2-diol CAS No.: 27813-02-1 EC No.: 248-666-3
Bioconcentration factor (BCF): 3.2
Trimethylolpropane trimethacrylate CAS No.: 3290-92-4 EC No.: 221-950-4
Log K_{OW}: 4.39
Bioconcentration factor (BCF): 270.1

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment

7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate CAS No.: 72869-86-4 EC No.: 276-957-5
Results of PBT and vPvB assessment: —
toluene CAS No.: 108-88-3 EC No.: 203-625-9
Results of PBT and vPvB assessment: —
cyclohexane CAS No.: 110-82-7 EC No.: 203-806-2
Results of PBT and vPvB assessment: —
Siliciumdioxid, auf chemischem Wege gewonnen CAS No.: 112945-52-5 EC No.: 231-545-4
Results of PBT and vPvB assessment: —
Aliphatic urethane trifunctional acrylate/methacrylate
Results of PBT and vPvB assessment: —
Polyethylene glycol 200 Dimethacrylate CAS No.: 25852-47-5
Results of PBT and vPvB assessment: —
Isobornyl acrylate CAS No.: 5888-33-5 EC No.: 227-561-6
Results of PBT and vPvB assessment: —
Methacrylic acid, monoester with propan-1,2-diol CAS No.: 27813-02-1 EC No.: 248-666-3
Results of PBT and vPvB assessment: —
Trimethylolpropane trimethacrylate CAS No.: 3290-92-4 EC No.: 221-950-4
Results of PBT and vPvB assessment: —
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide CAS No.: 75980-60-8 EC No.: 278-355-8
Results of PBT and vPvB assessment: —

12.6. Endocrine disrupting properties
No data available

12.7. Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Dispose of waste according to applicable legislation.

Waste treatment options
Appropriate disposal / Product:
Consult the appropriate local waste disposal expert about waste disposal.

Appropriate disposal / Package:
Contact the responsible, authorised waste disposal company about waste disposal.

Other disposal recommendations:
Avoid release to the environment.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
UN 3082	UN 3082	UN 3082	UN 3082
14.2. UN proper shipping name			
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.3. Transport hazard class(es)			
 9	 9	 9	 9
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
		 MARINE POLLUTANT	
14.6. Special precautions for user			
Special Provisions: 274 | 335 | 375 | 601 **Limited quantity (LQ):** 5 L **Excepted Quantities (EQ):** E1 **Hazard identification number (Kemler No.):** 90 **Classification code:** M6 **Tunnel restriction code:** (-)	**Special Provisions:** 274 | 335 | 375 | 601 **Limited quantity (LQ):** 5 L **Excepted Quantities (EQ):** E1 **Classification code:** M6	**Special Provisions:** 274 | 335 | 969 **Limited quantity (LQ):** 5 L **Excepted Quantities (EQ):** E1 **EmS-No.:** F-A, S-F	**Special Provisions:** A97 | A158 | A197 | A215 **Limited quantity (LQ):** Y964 **Excepted Quantities (EQ):** E1

14.7. Maritime transport in bulk according to IMO instruments
No data available

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SECTION 15: Regulatory information

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

15.1.1. EU legislation

Authorisations:
EU regulations

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation
There is no information available

Störfallverordnung (12. BImschV)

for substances contained in the product:
Not subject to the Major Accidents Ordinance

Technische Anleitung zur Reinhaltung der Luft (TA-Luft)

Klasse 1:
No subject to TA-Luft.

Water hazard class

WGK:
3 - highly hazardous to water

15.2. Chemical Safety Assessment

No data available

SECTION 16: Other information

16.1. Indication of changes

No data available

16.2. Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
DIN	German Institute for Standardization / German Industrial Standard
DNEL	derived no-effect level
EC_{50}	Effective Concentration 50%
EN	European Standard
ES	Exposure scenario
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
LC_{50}	Lethal (fatal) Concentration 50%
LD_{50}	Lethal (fatal) Dose 50%
MAK	Maximum concentration in the workplace air (CH)
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Cooperation and Development
OEL	Threshold Limit Value
OSHA	Occupational Safety & Health Administration
PBT	persistent and bioaccumulative and toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation and Authorization of Chemicals
RID	Dangerous goods regulations for transport by rail

TRGS	Technische Regeln für Gefahrstoffe
UN	United Nations
ZNS	central nervous system

16.3. Key literature references and sources for data

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008
on classification, labelling and packaging of substances and mixtures, amending and repealing of Directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No 1907/2006.

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Skin corrosion/irritation *(Skin Irrit. 2)*	H315: Causes skin irritation.	Calculation method.
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	Calculation method.
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	Calculation method.
Acute toxicity (inhalative) *(Acute Tox. 4)*	H332: Harmful if inhaled.	Calculation method.
STOT-single exposure *(STOT SE 3)*	H335: May cause respiratory irritation.	Calculation method.
Hazardous to the aquatic environment *(Aquatic Chronic 2)*	H411: Toxic to aquatic life with long lasting effects.	Calculation method.

16.5. List of relevant hazard statements and/or precautionary statements from sections 2 to 15

Hazard statements	
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

16.6. Training advice

As from 24 August 2023 adequate training is required before industrial or professional use.

16.7. Additional information

This information is based on our current knowledge and is intended to describe the product in terms of health, safety and environmental conditions only. It should therefore not be construed as a guarantee of any specific property of the product.
DISCLAIMER We have obtained the information contained in this data sheet from sources we believe to be reliable. The accuracy of the information, whether expressed or implied, cannot be guaranteed. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and possibly beyond our knowledge. For these and other reasons, we assume no responsibility and expressly disclaim liability for any loss, damage or expense which may arise from or be in any way connected with the handling, storage, use or disposal of the product. This safety data sheet has been prepared for this product and may only be used for this product. If the product is used as a component of another product, the information given in the data sheet may not apply.End of safety data sheet

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End of safety data sheet

* Data changed compared with the previous version.