



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

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CLEAR SEMI FLEXIBLE SLA/DLP RES

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

1.1. Product identifier

CLEAR SEMI FLEXIBLE SLA/DLP RES

Contains:

Dicyclopentylidimethylene diacrylate
polyurethane acrylate
Trimethylolpropane triacrylate
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide

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

Intended use:
Adhesive

1.3. Details of the supplier of the safety data sheet

Henkel Ireland
Operations and Research Limited
Tallaght Business Park
Dublin 24

Ireland

Phone: +353 (14046444)
Fax-no.: +353 (14519926)

ua-productsafety.de@henkel.com

1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Chronic hazards to the aquatic environment	Category 2
H411 Toxic to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Signal word:

Warning

Hazard statement:

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statement:
Prevention**

P273 Avoid release to the environment.
P280 Wear protective gloves.

**Precautionary statement:
Response**

P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

None if used properly.

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

Care should be taken during the cure of these products by UV radiation to avoid exposure of the skin and especially of the eyes to direct or reflected UV radiation as long term effects could be harmful.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
(5-ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1	266-380-7 01-2119976303-36	25- 50 %	Eye Irrit. 2 H319 Skin Irrit. 2 H315 Aquatic Chronic 2 H411
Dicyclopentylidimethylene diacrylate 42594-17-2	255-901-3 01-2120051112-76	25- 50 %	Skin Sens. 1 H317 Aquatic Chronic 2 H411
polyurethane acrylate 82116-59-4		5- < 10 %	Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Dam. 2 H319
5-Ethyl-1,3-dioxane-5-methanol 5187-23-5	225-967-8	1- < 3 %	Eye Irrit. 2 H319
Trimethylolpropane triacrylate 15625-89-5	239-701-3 01-2119489896-11	1- < 3 %	Eye Irrit. 2 H319 Skin Irrit. 2 H315 Skin Sens. 1 H317
Isobornyl methacrylate 7534-94-3	231-403-1 01-2119474895-20 01-2119886505-27	0,25- < 2,5 %	Aquatic Chronic 3 H412
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	278-355-8 01-2119972295-29	0,3- < 2,5 %	Repr. 2 H361f Aquatic Chronic 2 H411 Skin Sens. 1B H317

**For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.**

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Move to fresh air. If symptoms persist, seek medical advice.

Skin contact:

Rinse with running water and soap.
Obtain medical attention if irritation persists.

Eye contact:

Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.

Ingestion:

Rinse out mouth, drink 1-2 glasses of water, do not induce vomiting.
Seek medical advice.

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

SKIN: Rash, Urticaria.

SKIN: Redness, inflammation.

EYE: Irritation, conjunctivitis.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:

None known

5.2. Special hazards arising from the substance or mixture

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x) can be released.

Sulphur oxides

5.3. Advice for firefighters

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Additional information:

In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Ensure adequate ventilation.

Wear protective equipment.

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up

For small spills wipe up with paper towel and place in container for disposal.

For large spills absorb onto inert absorbent material and place in sealed container for disposal.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Use only in well-ventilated areas.

Avoid skin and eye contact.

Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.

Ventilation will remove any ozone that may be produced by the ultra violet lamp

See advice in section 8

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

7.2. Conditions for safe storage, including any incompatibilities

Store in sealed original container.
Refer to Technical Data Sheet
Storage at 8 to 28°C is recommended.

7.3. Specific end use(s)

Adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

None

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1	aqua (freshwater)		0,004 mg/l				
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1	aqua (marine water)		0,0004 mg/l				
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1	sewage treatment plant (STP)		30 mg/l				
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1	aqua (intermittent releases)		0,04 mg/l				
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1	soil		0,0014 mg/l				
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1	sediment (marine water)				0,0019 mg/kg		
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1	sediment (freshwater)				0,019 mg/kg		
(Octahydro-4,7-methano-1H- indenediyl)bis(methylene) diacrylate 42594-17-2	aqua (freshwater)		0,0016 mg/l				
(Octahydro-4,7-methano-1H- indenediyl)bis(methylene) diacrylate 42594-17-2	aqua (marine water)		0,00016 mg/l				
(Octahydro-4,7-methano-1H- indenediyl)bis(methylene) diacrylate 42594-17-2	sediment (freshwater)				0,6576 mg/kg		
(Octahydro-4,7-methano-1H- indenediyl)bis(methylene) diacrylate 42594-17-2	sediment (marine water)				0,0658 mg/kg		
(Octahydro-4,7-methano-1H- indenediyl)bis(methylene) diacrylate 42594-17-2	soil				0,1306 mg/kg		
(Octahydro-4,7-methano-1H- indenediyl)bis(methylene) diacrylate 42594-17-2	sewage treatment plant (STP)		10 mg/l				
(Octahydro-4,7-methano-1H- indenediyl)bis(methylene) diacrylate 42594-17-2	aqua (intermittent releases)		0,016 mg/l				
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3- propanediyl diacrylate 15625-89-5	soil				0,0049 mg/kg		
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3- propanediyl diacrylate 15625-89-5	sediment (freshwater)				0,015 mg/kg		
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3- propanediyl diacrylate 15625-89-5	sediment (marine water)				0,0029 mg/kg		
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3- propanediyl diacrylate 15625-89-5	aqua (freshwater)		0,00147 mg/l				
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3- propanediyl diacrylate 15625-89-5	aqua (marine water)		0,000147 mg/l				
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3- propanediyl diacrylate 15625-89-5	sewage treatment plant (STP)		6,25 mg/l				
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3- propanediyl diacrylate 15625-89-5	oral				10 mg/kg		
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3- propanediyl diacrylate 15625-89-5	aqua (intermittent releases)		0,0147 mg/l				
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	aqua (freshwater)		4,66 µg/l				
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	soil				0,118 mg/kg		
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	sewage treatment plant (STP)		2,45 mg/l				

Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	sediment (freshwater)				0,604 mg/kg	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	aqua (freshwater)		0,00353 mg/l			
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	aqua (marine water)		0,000353 mg/l			
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	aqua (intermittent releases)		0,0353 mg/l			
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	sediment (freshwater)				0,29 mg/kg	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	sediment (marine water)				0,029 mg/kg	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	soil				0,0557 mg/kg	

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate 15625-89-5	Workers	dermal	Long term exposure - systemic effects		83 mg/kg	
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate 15625-89-5	Workers	inhalation	Long term exposure - systemic effects		3,5 mg/m3	
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate 15625-89-5	General population	dermal	Long term exposure - systemic effects		42 mg/kg	
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate 15625-89-5	General population	inhalation	Long term exposure - systemic effects		0,87 mg/m3	
2-Ethyl-2-[[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate 15625-89-5	General population	oral	Long term exposure - systemic effects		0,5 mg/kg	
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Workers	dermal	Long term exposure - systemic effects		1,04 mg/kg	
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	General population	dermal	Long term exposure - systemic effects		0,625 mg/kg	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Workers	Inhalation	Long term exposure - systemic effects		3,5 mg/m3	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Workers	dermal	Long term exposure - systemic effects		1 mg/kg	

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:

UV lamp should be designed, installed and operated in such a way as to eliminate exposure of the skin and eyes to stray radiation

Respiratory protection:

Ensure adequate ventilation.

An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area

Filter type: A (EN 14387)

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; ≥ 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; ≥ 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

Wear protective glasses.

Protective eye equipment should conform to EN166.

Skin protection:

Wear suitable protective clothing.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Appearance	liquid liquid clear, transparent
Odor	mild
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	> 150 °C (> 302 °F)
Flash point	> 93,3 °C (> 199,94 °F)
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure	0 mbar
Relative vapour density:	No data available / Not applicable
Density ()	1,1 g/cm ³
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Partially soluble
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity (Cone and plate; Instrument: Haake cone and plate, RV1, C60/1°Ti; 25 °C (77 °F); Shear gradient: 200 s ⁻¹ ; Swell time: 180 min)	120 - 300 mPa.s
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Oxidising properties	No data available / Not applicable

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity**10.1. Reactivity**Reaction with strong acids.
Reacts with strong oxidants.**10.2. Chemical stability**

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

None if used for intended purpose.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

Oxides of carbon.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****General toxicological information:**

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Oral toxicity:

May cause irritation to the digestive tract.

Inhalative toxicity:

May cause irritation to respiratory system.

Skin irritation:

Causes skin irritation.

Eye irritation:

Causes serious eye irritation.

Sensitizing:

May cause an allergic skin reaction.

Acute oral toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
5-Ethyl-1,3-dioxane-5- methanol 5187-23-5	LD50	> 2.000 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)
Trimethylolpropane triacrylate 15625-89-5	LD50	> 5.000 mg/kg	oral		rat	not specified
Isobornyl methacrylate 7534-94-3	LD50	3.160 mg/kg	oral		rat	not specified
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	LD50	> 5.000 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)

Acute inhalative toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
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Acute dermal toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Trimethylolpropane triacrylate 15625-89-5	LD50	7.050 mg/kg	dermal		rabbit	not specified
Isobornyl methacrylate 7534-94-3	LD50	> 3.000 mg/kg	dermal		rabbit	not specified
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	LD50	> 2.000 mg/kg	dermal		rat	OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Dicyclopentylidimethylene diacrylate 42594-17-2	not irritating		In vitro	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
Isobornyl methacrylate 7534-94-3	mildly irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	not irritating	24 h	rabbit	not specified

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Dicyclopentylidimethylene diacrylate 42594-17-2	not irritating		In vitro	OECD Guideline 437 (BCOP)
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	not irritating		rabbit	not specified

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Dicyclopentylidimethylene diacrylate 42594-17-2	sensitising	Freund's complete adjuvant test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Isobornyl methacrylate 7534-94-3	not sensitising	Guinea pig maximisa- tion test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	sensitising	Mouse local lymphnod- e assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Dicyclopentylidimethylene diacrylate 42594-17-2	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Isobornyl methacrylate 7534-94-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
	negative		with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

Reproductive toxicity:

Hazardous substances CAS-No.	Result / Classification	Species	Exposure time	Species	Method
Isobornyl methacrylate 7534-94-3	NOAEL P = 25 mg/kg NOAEL F1 = 500 mg/kg	oral: gavage		rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)

Repeated dose toxicity

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Dicyclopentylidimethylene diacrylate 42594-17-2	NOAEL=1.000 mg/kg	oral: gavage		rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	NOAEL=100 mg/kg	oral: gavage	3 m5 d/w	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

SECTION 12: Ecological information**General ecological information:**

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

12.1. Toxicity**Ecotoxicity:**

Toxic to aquatic life with long lasting effects.

Do not empty into drains / surface water / ground water.

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
(5-ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1	LC50	4 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Dicyclopentylidimethylene diacrylate 42594-17-2	EC50	2,36 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Dicyclopentylidimethylene diacrylate 42594-17-2	EC50	1,6 mg/l	Algae	72 h	Pseudokirchnerella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
	EC10	0,64 mg/l	Algae	72 h	Pseudokirchnerella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
5-Ethyl-1,3-dioxane-5-methanol 5187-23-5	LC50	> 1.000 mg/l	Fish	96 h		OECD Guideline 203 (Fish, Acute Toxicity Test)
5-Ethyl-1,3-dioxane-5-methanol 5187-23-5	EC50	3.000 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
5-Ethyl-1,3-dioxane-5-methanol 5187-23-5	EC50	> 1.000 mg/l	Algae	72 h		OECD Guideline 201 (Alga, Growth Inhibition Test)
Trimethylolpropane triacrylate 15625-89-5	LC50	> 1 - 2,2 mg/l	Fish	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Isobornyl methacrylate 7534-94-3	LC50	1,79 mg/l	Fish	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Isobornyl methacrylate 7534-94-3	EC50	1,1 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Isobornyl methacrylate 7534-94-3	EC50	2,66 mg/l	Algae	96 h	Pseudokirchnerella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
	NOEC	0,254 mg/l	Algae	96 h	Pseudokirchnerella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Isobornyl methacrylate 7534-94-3	NOEC	0,233 mg/l	chronic Daphnia	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	LC50	> 1 - 10 mg/l	Fish	48 h	Oryzias latipes	OECD Guideline 203 (Fish, Acute Toxicity Test)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	EC50	> 10 - 100 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	EC50	> 10 - 100 mg/l	Algae	72 h		OECD Guideline 201 (Alga, Growth Inhibition Test)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	EC 50	> 1.000 mg/l	Bacteria	30 min		OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

Persistence and Biodegradability:

No data available for the product.

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
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(5-ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1		aerobic	28 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Dicyclopentylidimethylene diacrylate 42594-17-2	Not readily biodegradable.	aerobic	28 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Trimethylolpropane triacrylate 15625-89-5			> 70 %	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
			> 40 %	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
Isobornyl methacrylate 7534-94-3	readily biodegradable	aerobic	70 %	OECD Guideline 310 (Ready Biodegradability CO2 in Sealed Vessels (Headspace Test))
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8			< 20 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

12.3. Bioaccumulative potential / 12.4. Mobility in soil**Mobility:**

Cured adhesives are immobile.

Bioaccumulative potential:

No data available for the product.

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
(5-ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1	1,9				23 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Dicyclopentylidimethylene diacrylate 42594-17-2	4,6					OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Isobornyl methacrylate 7534-94-3		37	56 day	Danio rerio	24 °C	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
Isobornyl methacrylate 7534-94-3	5,09					OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

12.5. Results of PBT and vPvB assessment

Hazardous components CAS-No.	PBT/vPvB
(5-ethyl-1,3-dioxan-5-yl)methyl acrylate 66492-51-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Trimethylolpropane triacrylate 15625-89-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Isobornyl methacrylate 7534-94-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Product disposal:

Dispose of in accordance with local and national regulations.

Contribution of this product to waste is very insignificant in comparison to article in which it is used

Collection and delivery to recycling enterprise or other registered elimination institution.

Disposal of uncleaned packages:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Disposal must be made according to official regulations.

Waste code

08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

SECTION 14: Transport information**14.1. UN number**

ADR	3082
RID	3082
ADN	3082
IMDG	3082
IATA	3082

14.2. UN proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-Ethyl-1,3-dioxan-5-yl)methyl acrylate,(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-Ethyl-1,3-dioxan-5-yl)methyl acrylate,(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-Ethyl-1,3-dioxan-5-yl)methyl acrylate,(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-Ethyl-1,3-dioxan-5-yl)methyl acrylate,(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate)
IATA	Environmentally hazardous substance, liquid, n.o.s. ((5-Ethyl-1,3-dioxan-5-yl)methyl acrylate,(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate)

14.3. Transport hazard class(es)

ADR	9
RID	9
ADN	9
IMDG	9
IATA	9

14.4. Packing group

ADR	III
RID	III
ADN	III
IMDG	III
IATA	III

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	Marine pollutant
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable
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	Tunnelcode: (E)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), 197 (IATA), 969 (IMDG) may be applied, which can result in a deviation from the transport classification for packed goods.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information

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

VOC content < 3 %
(2010/75/EC)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Germany):

WGK: WGK = 3, highly water endangering product. Classification according to the mixture rules in German VwVwS regulation annex 4 from 27 July 2005.

Storage class according to TRGS 510: 10

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H361f Suspected of damaging fertility.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.