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

SDS No. : 694372
V007.0

LOCTITE 3D PRO410 Black

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

1.1. Product identifier

LOCTITE 3D PRO410 Black
UFI: 86GK-5X13-420D-3XYP

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

Intended use:
3D Printing Resin

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA
Henkelstr. 67
40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com
For Safety Data Sheet updates please visit our website www.mysds.henkel.com or www.henkel-adhesives.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 sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Toxic to reproduction	Category 1B
H360FD May damage fertility. May damage the unborn child.	
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:	
Contains	Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- Dicyclopentyldimethylene diacrylate Tris(2-acryloxyethyl) isocyanurate Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide Triacrylate ester 1-Hydroxycyclohexyl phenyl ketone Reaction mass of pentamethyl-4-piperidylsebacates 2-Hydroxyethyl acrylate Triphenyl phosphite
Signal word:	Danger
Hazard statement:	H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H360FD May damage fertility. May damage the unborn child. H411 Toxic to aquatic life with long lasting effects.
Supplemental information	Restricted to professional users.
Precautionary statement: Prevention	P201 Obtain special instructions before use. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement: Response	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 IF exposed or concerned: Get medical advice/attention. P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

None if used properly.

Following substances are present in a concentration ≥ the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration ≥ the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

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 No REACH-Reg. No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- 84170-74-1	25- < 50 %	Skin Sens. 1B, H317 Aquatic Chronic 2, H411		
Dicyclopentyldimethylene diacrylate 42594-17-2 255-901-3 01-2120051112-76	20- < 40 %	Skin Sens. 1B, H317 Repr. 1B, H360D Aquatic Chronic 2, H411		
Tris(2-acryloxyethyl) isocyanurate 40220-08-4 254-843-6 01-2120741502-64	10- < 20 %	Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 2, H411		
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7 423-340-5 01-2119489401-38 01-2119936813-33	1- < 5 %	Skin Sens. 1A, H317 Aquatic Chronic 4, H413		
Hexan-6-olide 502-44-3 207-938-1 01-2119485521-38	1- < 5 %	Eye Irrit. 2, H319	oral:ATE = 2.500 mg/kg	
Triacrylate ester 52408-84-1 500-114-5 01-2119487948-12	0,1- < 1 %	Skin Sens. 1, H317 Eye Irrit. 2, H319		
1-Hydroxycyclohexyl phenyl ketone 947-19-3 213-426-9 01-2119457404-40	0,3- < 1 %	Aquatic Chronic 3, H412 Repr. 1B, H360F	oral:ATE = 2.500 mg/kg	
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5 915-687-0 01-2119491304-40	0,1- < 1 %	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Skin Sens. 1A, H317 Repr. 2, H361f	M acute = 1 M chronic = 1 ===== dermal:ATE = 3.171 mg/kg	
Butyl hydroxytoluene 128-37-0 204-881-4 01-2119565113-46	0,1- < 1 %	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 1 M chronic = 1	
2-Hydroxyethyl acrylate 818-61-1 212-454-9 01-2119459345-34	0,1- < 0,2 %	Acute Tox. 4, Oral, H302 Acute Tox. 3, Dermal, H311 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 3, H412	Skin Sens. 1; H317; C >= 0,2 % ===== M acute = 1	
Triphenyl phosphite 101-02-0 202-908-4 01-2119511213-58	0,01- < 0,1 %	Acute Tox. 4, Oral, H302 Eye Irrit. 2, H319 Skin Irrit. 2, H315 STOT RE 2, H373 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	Skin Irrit. 2; H315; C >= 5 % Eye Irrit. 2; H319; C >= 5 % ===== dermal:ATE = 2.500 mg/kg	

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.
For full text of the H - statements and other abbreviations see section 16 "Other information".

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 from a specialist.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed
SKIN: Rash, Urticaria.

After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).

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:
water, carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:
High pressure waterjet

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 (NOx) can be released.

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.
Wear protective equipment.
Ensure adequate ventilation.
Keep away from sources of ignition.

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.
Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid skin and eye contact.
See advice in section 8

Hygiene measures:
Good industrial hygiene practices should be observed.
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities
Ensure good ventilation/extraction.
Keep container tightly sealed.
Refer to Technical Data Sheet.

7.3. Specific end use(s)
3D Printing Resin

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m^3	Value type	Short term exposure limit category / Remarks	Regulatory list
2,6-di-tert-Butyl-p-cresol 128-37-0		10	Exposure limit(s):	4 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
2,6-di-tert-Butyl-p-cresol 128-37-0			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	aqua (freshwater)		0,00046 mg/l				
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Freshwater - intermittent		0,016 mg/l				
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	aqua (marine water)		0,000046 mg/l				
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	sediment (freshwater)				0,189 mg/kg		
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	sediment (marine water)				0,019 mg/kg		
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Soil				0,346 mg/kg		
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	sewage treatment plant (STP)		10 mg/l				
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	aqua (freshwater)		0,00943 mg/l				
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	aqua (intermittent releases)		0,0943 mg/l				
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	sewage treatment plant (STP)		10 mg/l				
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	aqua (marine water)		0,000943 mg/l				
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	sediment (freshwater)				0,62 mg/kg		
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	sediment (marine water)				0,062 mg/kg		
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	Soil				0,118 mg/kg		
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	aqua (freshwater)		0,001 mg/l				
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	aqua (intermittent releases)		0,001 mg/l				
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	aqua (marine water)		0,001 mg/l				
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	sewage treatment plant (STP)		1 mg/l				
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	sediment (freshwater)				0,712 mg/kg		
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	sediment (marine water)				0,712 mg/kg		

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	Soil				20 mg/kg		
Hexan-6-olide 502-44-3	aqua (freshwater)		0,204 mg/l				
Hexan-6-olide 502-44-3	aqua (marine water)		0,0204 mg/l				
Hexan-6-olide 502-44-3	sewage treatment plant (STP)		32 mg/l				
Hexan-6-olide 502-44-3	sediment (freshwater)		2,04 mg/l				
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	aqua (freshwater)		0,006 mg/l				
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	aqua (intermittent releases)		0,057 mg/l				
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	Sewage treatment plant		10 mg/l				
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	sediment (freshwater)				0,078 mg/kg		
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	sediment (marine water)				0,008 mg/kg		
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	aqua (marine water)		0,001 mg/l				
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	Soil				0,012 mg/kg		
Hydroxycyclohexyl phenyl ketone 947-19-3	aqua (freshwater)		0,0144 mg/l				
Hydroxycyclohexyl phenyl ketone 947-19-3	aqua (marine water)		0,00144 mg/l				
Hydroxycyclohexyl phenyl ketone 947-19-3	aqua (intermittent releases)		0,144 mg/l				
Hydroxycyclohexyl phenyl ketone 947-19-3	Sewage treatment plant		10 mg/l				
Hydroxycyclohexyl phenyl ketone 947-19-3	sediment (freshwater)				0,186 mg/kg		
Hydroxycyclohexyl phenyl ketone 947-19-3	sediment (marine water)				0,0186 mg/kg		
Hydroxycyclohexyl phenyl ketone 947-19-3	Soil				0,0284 mg/kg		
Hydroxycyclohexyl phenyl ketone 947-19-3	Predator						no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	aqua (freshwater)		0,002 mg/l				
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	aqua (marine water)		0,00022 mg/l				
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Freshwater - intermittent		0,009 mg/l				
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	sewage treatment plant (STP)		1 mg/l				
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	sediment (freshwater)				1,05 mg/kg		
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	sediment (marine water)				0,11 mg/kg		
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Soil				0,21 mg/kg		
Reaction mass of pentamethyl-4-piperidylsebacates	Predator						no potential for bioaccumulation

1065336-91-5							
2,6-Di-tert-butyl-p-cresol 128-37-0	aqua (freshwater)		0,000199 mg/l				
2,6-Di-tert-butyl-p-cresol 128-37-0	aqua (marine water)		0,00002 mg/l				
2,6-Di-tert-butyl-p-cresol 128-37-0	sewage treatment plant (STP)		0,17 mg/l				
2,6-Di-tert-butyl-p-cresol 128-37-0	sediment (freshwater)				0,0996 mg/kg		
2,6-Di-tert-butyl-p-cresol 128-37-0	sediment (marine water)				0,00996 mg/kg		
2,6-Di-tert-butyl-p-cresol 128-37-0	Soil				0,04769 mg/kg		
2,6-Di-tert-butyl-p-cresol 128-37-0	oral				8,33 mg/kg		
2,6-Di-tert-butyl-p-cresol 128-37-0	aqua (intermittent releases)		0,00199 mg/l				
2,6-Di-tert-butyl-p-cresol 128-37-0	Air						no hazard identified
2-Hydroxyethyl acrylate 818-61-1	aqua (freshwater)		0,017 mg/l				
2-Hydroxyethyl acrylate 818-61-1	aqua (marine water)		0,002 mg/l				
2-Hydroxyethyl acrylate 818-61-1	aqua (intermittent releases)		0,036 mg/l				
2-Hydroxyethyl acrylate 818-61-1	sediment (freshwater)				0,064 mg/kg		
2-Hydroxyethyl acrylate 818-61-1	sediment (marine water)				0,006 mg/kg		
2-Hydroxyethyl acrylate 818-61-1	Soil				0,003 mg/kg		
2-Hydroxyethyl acrylate 818-61-1	Sewage treatment plant		10 mg/l				
2-Hydroxyethyl acrylate 818-61-1	Air						no hazard identified
Triphenyl phosphite 101-02-0	aqua (freshwater)		0,0077 mg/l				
Triphenyl phosphite 101-02-0	Sewage treatment plant		2,1 mg/l				
Triphenyl phosphite 101-02-0	Soil				0,136 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	Workers	inhalation	Long term exposure - systemic effects		1,65 mg/m3	
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	Workers	dermal	Long term exposure - systemic effects		2,3 mg/kg	
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	General population	inhalation	Long term exposure - systemic effects		0,29 mg/m3	
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	General population	oral	Long term exposure - systemic effects		0,08 mg/kg	
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate 40220-08-4	General population	dermal	Long term exposure - systemic effects		0,83 mg/kg	
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	Workers	Inhalation	Long term exposure - systemic effects		21 mg/m3	
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	Workers	dermal	Long term exposure - systemic effects		3 mg/kg	
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	General population	inhalation	Long term exposure - systemic effects		5,2 mg/m3	
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	General population	dermal	Long term exposure - systemic effects		1,5 mg/kg	
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	General population	oral	Long term exposure - systemic effects		1,5 mg/kg	
Hexan-6-olide 502-44-3	General population	oral	Long term exposure - systemic effects		1,43 mg/kg	
Hexan-6-olide 502-44-3	General population	dermal	Long term exposure - systemic effects		1,43 mg/kg	
Hexan-6-olide 502-44-3	General population	inhalation	Long term exposure - systemic effects		2,5 mg/m3	
Hexan-6-olide 502-44-3	Workers	dermal	Long term exposure - systemic effects		2,98 mg/kg	
Hexan-6-olide 502-44-3	General population	inhalation	Long term exposure - local effects		7 mg/m3	
Hexan-6-olide 502-44-3	Workers	inhalation	Long term exposure - systemic effects		10,4 mg/m3	
Hexan-6-olide 502-44-3	Workers	inhalation	Long term exposure - local effects		14 mg/m3	
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	Workers	inhalation	Long term exposure - systemic effects		7,4 mg/m3	
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	Workers	dermal	Long term exposure - systemic effects		2,1 mg/kg	
Hydroxycyclohexyl phenyl ketone 947-19-3	Workers	inhalation	Long term exposure - systemic effects		4,93 mg/m3	no potential for bioaccumulation
Hydroxycyclohexyl phenyl ketone 947-19-3	Workers	dermal	Long term exposure - systemic effects		1,4 mg/kg	no potential for bioaccumulation

Hydroxycyclohexyl phenyl ketone 947-19-3	General population	inhalation	Long term exposure - systemic effects		0,87 mg/m3	no potential for bioaccumulation
Hydroxycyclohexyl phenyl ketone 947-19-3	General population	dermal	Long term exposure - systemic effects		0,5 mg/kg	no potential for bioaccumulation
Hydroxycyclohexyl phenyl ketone 947-19-3	General population	oral	Long term exposure - systemic effects		0,5 mg/kg	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Workers	inhalation	Long term exposure - systemic effects		3,53 mg/m3	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Workers	dermal	Long term exposure - systemic effects		2 mg/kg	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	General population	inhalation	Long term exposure - systemic effects		0,87 mg/m3	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	General population	dermal	Long term exposure - systemic effects		1 mg/kg	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	General population	oral	Long term exposure - systemic effects		0,5 mg/kg	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Workers	dermal	Long term exposure - local effects			no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Workers	dermal	Acute/short term exposure - local effects			no potential for bioaccumulation
2,6-Di-tert-butyl-p-cresol 128-37-0	Workers	inhalation	Long term exposure - systemic effects		3,5 mg/m3	no hazard identified
2,6-Di-tert-butyl-p-cresol 128-37-0	Workers	dermal	Long term exposure - systemic effects		0,5 mg/kg	no hazard identified
2,6-Di-tert-butyl-p-cresol 128-37-0	General population	inhalation	Long term exposure - systemic effects		0,86 mg/m3	no hazard identified
2,6-Di-tert-butyl-p-cresol 128-37-0	General population	dermal	Long term exposure - systemic effects		0,25 mg/kg	no hazard identified
2,6-Di-tert-butyl-p-cresol 128-37-0	General population	oral	Long term exposure - systemic effects		0,25 mg/kg	no hazard identified
2-Hydroxyethyl acrylate 818-61-1	Workers	inhalation	Long term exposure - local effects		2,4 mg/m3	no hazard identified
2-Hydroxyethyl acrylate 818-61-1	General population	inhalation	Long term exposure - local effects		1,2 mg/m3	no hazard identified
Triphenyl phosphite 101-02-0	General population	dermal	Long term exposure - systemic effects		0,150 mg/kg	
Triphenyl phosphite 101-02-0	General population	inhalation	Long term exposure - systemic effects		0,53 mg/m3	

Biological Exposure Indices:
None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.

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:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
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

Delivery form	liquid
Colour	Black
Odor	Acrylic
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	< 0 °C (< 32 °F)
Initial boiling point	> 149 °C (> 300.2 °F)
Flammability	The product is not flammable.
Explosive limits	Not applicable, The product is not flammable.
Flash point	> 93,3 °C (> 199.94 °F)
Auto-ignition temperature	Not applicable, The product is not flammable.
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Product is non-soluble (in water)., Not applicable
Viscosity (kinematic) (40 °C (104 °F);)	> 20,5 mm2/s
Viscosity, dynamic ()	500 mPa.s no method / method unknown
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	practically insoluble
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (20 °C (68 °F))	< 1,3 kPa
Density (20 °C (68 °F))	1,1 g/cm3 no method / method unknown
Relative vapour density: (20 °C)	> 1

Particle characteristics	Not applicable Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity
Reacts with strong oxidants.
Strong bases.
Acids.
Reducing agents.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
Stable under normal conditions of storage and use.

10.5. Incompatible materials
See section reactivity.

10.6. Hazardous decomposition products
carbon oxides.
Hydrocarbons
nitrogen oxides
Rapid polymerisation may generate excessive heat and pressure.

SECTION 11: Toxicological information

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

Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- 84170-74-1	LD0	> 5.000 mg/kg	rat	not specified
Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- 84170-74-1	LD50	> 5.000 mg/kg	rat	not specified
Dicyclopentyldimethylene diacrylate 42594-17-2	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	LD0	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Hexan-6-olide 502-44-3	LD50	> 2.000 mg/kg	rat	EU Method B.1 (Acute Toxicity (Oral))
Hexan-6-olide 502-44-3	Acute toxicity estimate (ATE)	2.500 mg/kg		Expert judgement
Triacrylate ester 52408-84-1	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	LD50	> 2.000 - < 5.000 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	Acute toxicity estimate (ATE)	2.500 mg/kg		Expert judgement
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	LD50	3.125 mg/kg	rat	equivalent or similar to OECD Guideline 423 (Acute Oral toxicity)
Butyl hydroxytoluene 128-37-0	LD50	> 6.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
2-Hydroxyethyl acrylate 818-61-1	LD50	540 mg/kg	rat	not specified
Triphenyl phosphite 101-02-0	LD50	1.590 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- 84170-74-1	LD50	> 5.000 mg/kg	rabbit	not specified
Dicyclopentyldimethylene diacrylate 42594-17-2	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Hexan-6-olide 502-44-3	LD50	6.400 mg/kg	rabbit	not specified
Triacrylate ester 52408-84-1	LD50	> 2.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	LD50	> 5.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	LD50	> 3.170 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Acute toxicity estimate (ATE)	3.171 mg/kg		Expert judgement
Butyl hydroxytoluene 128-37-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Triphenyl phosphite 101-02-0	LD50	> 2.000 - < 5.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Triphenyl phosphite 101-02-0	Acute toxicity estimate (ATE)	2.500 mg/kg		Expert judgement

Acute inhalative toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
1-Hydroxycyclohexyl phenyl ketone 947-19-3	LC50	> 1 mg/l	dust/mist	4 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
Triphenyl phosphite 101-02-0	LC50	> 6,7 mg/l	dust/mist	1 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Dicyclopentyldimethylene diacrylate 42594-17-2	not irritating		Human, EpiSkinTM (SM), Reconstructed Human Epidermis (RHE)	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	not irritating	4 h	rabbit	EU Method B.4 (Acute Toxicity: Dermal Irritation / Corrosion)
Triacrylate ester 52408-84-1	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	not irritating	24 h	rabbit	EPA OPP 81-5 (Acute Dermal Irritation)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	not irritating	24 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Butyl hydroxytoluene 128-37-0	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Dicyclopentyldimethylene diacrylate 42594-17-2	not irritating		Bovine, cornea, in vitro test	OECD Guideline 437 (BCOP)
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	Category 1 (irreversible effects on the eye)		rabbit	EU Method B.5 (Acute Toxicity: Eye Irritation / Corrosion)
Triacrylate ester 52408-84-1	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	not irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Butyl hydroxytoluene 128-37-0	not irritating		rabbit	Draize Test

Respiratory or skin sensitization:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- 84170-74-1	Sub-Category 1B (sensitising)	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Dicyclopentyldimethylene diacrylate 42594-17-2	Sub-Category 1B (sensitising)	Freund's complete adjuvant test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Triacrylate ester 52408-84-1	sensitising	Mouse local lymphnode assay (LLNA)	mouse	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Sub-Category 1A (sensitising)	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Butyl hydroxytoluene 128-37-0	not sensitising	Draize Test	guinea pig	Draize Test
2-Hydroxyethyl acrylate 818-61-1	sensitising	Mouse local lymphnode assay (LLNA)	mouse	not specified
Triphenyl phosphite 101-02-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Triphenyl phosphite 101-02-0	sensitising	Guinea pig maximisation test	guinea pig	EPA OPPTS 870.2600 (Skin Sensitisation)

Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Dicyclopentyldimethylene diacrylate 42594-17-2	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Dicyclopentyldimethylene diacrylate 42594-17-2	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Dicyclopentyldimethylene diacrylate 42594-17-2	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
Triacrylate ester 52408-84-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Triacrylate ester 52408-84-1	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Triacrylate ester 52408-84-1	positive	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	positive	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Butyl hydroxytoluene 128-37-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		not specified
Butyl hydroxytoluene 128-37-0	negative	in vitro mammalian chromosome aberration test	with and without		not specified
Butyl hydroxytoluene 128-37-0	negative	mammalian cell gene mutation assay	with		not specified
2-Hydroxyethyl acrylate 818-61-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		not specified

Carcinogenicity

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
Butyl hydroxytoluene 128-37-0	not carcinogenic	oral: feed	2 y daily	rat	male	not specified

Reproductive toxicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Dicyclopentyldimethylene diacrylate 42594-17-2	NOAEL P > 1.000 mg/kg NOAEL F1 1.000 mg/kg	screening	oral: gavage	rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
Triacrylate ester 52408-84-1	NOAEL P 750 mg/kg NOAEL F1 >= 750 mg/kg	screening	oral: gavage	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	NOAEL P 500 mg/kg	one-generation study	oral: gavage	rabbit	other guideline:
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	NOAEL P < 221 mg/kg NOAEL F1 221 mg/kg		oral: feed	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Butyl hydroxytoluene 128-37-0	NOAEL P 500 mg/kg	Two generation study	oral: feed	rat	not specified

STOT-single exposure:

No data available.

STOT-repeated exposure:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Dicyclopentyldimethylene diacrylate 42594-17-2	NOAEL > 1.000 mg/kg	oral: gavage	4 w daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Dicyclopentyldimethylene diacrylate 42594-17-2	NOAEL 1.000 mg/kg	oral: gavage	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Triacrylate ester 52408-84-1	NOAEL 250 mg/kg	oral: gavage	28-52 d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	NOAEL 300 mg/kg	oral: gavage	91-92 d daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	NOAEL 300 mg/kg	oral: gavage	28 d once daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	NOAEL 300 mg/kg	oral: gavage	28 d once daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Butyl hydroxytoluene 128-37-0	NOAEL 25 mg/kg	oral: feed	22 months daily	rat	not specified
Triphenyl phosphite 101-02-0	NOAEL 15 mg/kg	oral: gavage	16 weeks daily	rat	equivalent or similar to OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reprod./Develop. Tox. Screening Test)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

SECTION 12: Ecological information

General ecological information:
Do not empty into drains / surface water / ground water.

12.1. Toxicity

Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- 84170-74-1	LC50	2,7 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Dicyclopentyldimethylene diacrylate 42594-17-2	LC50	1,65 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	LC50	9,43 mg/l	96 h	Danio rerio (reported as Brachydanio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	LC50	Toxicity > Water solubility'	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Hexan-6-olide 502-44-3	LC50	280 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)
Triacrylate ester 52408-84-1	LC50	5,74 mg/l	96 h	Danio rerio (reported as Brachydanio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	LC50	24 mg/l	96 h	Danio rerio	EU Method C.1 (Acute Toxicity for Fish)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	NOEC	10 mg/l	32 d	Pimephales promelas	OECD Guideline 210 (fish early lite stage toxicity test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	LC50	0,9 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Butyl hydroxytoluene 128-37-0	LC50	Toxicity > Water solubility	96 h	Brachydanio rerio (new name: Danio rerio)	EU Method C.1 (Acute Toxicity for Fish)
Butyl hydroxytoluene 128-37-0	NOEC	0,053 mg/l	30 d	Oryzias latipes	OECD Guideline 210 (fish early lite stage toxicity test)
2-Hydroxyethyl acrylate 818-61-1	LC50	4,8 mg/l	96 h	Pimephales promelas	other guideline:
Triphenyl phosphite 101-02-0	LC50	> 16 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (aquatic invertebrates):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- 84170-74-1	EC50	37 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Dicyclopentyldimethylene	EC50	2,36 mg/l	48 h	Daphnia magna	OECD Guideline 202

diacrylate 42594-17-2					(Daphnia sp. Acute Immobilisation Test)
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	EC50	158,3 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	EC50	Toxicity > Water solubility	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Triacrylate ester 52408-84-1	EC50	91,4 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	EC50	53,9 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Butyl hydroxytoluene 128-37-0	EC50	0,48 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-Hydroxyethyl acrylate 818-61-1	EC50	9,3 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Triphenyl phosphite 101-02-0	EC50	> 1 - 5 mg/l	48 h	Daphnia sp.	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity (aquatic invertebrates):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances **CAS-No.**	**Value type**	**Value**	**Exposure time**	**Species**	**Method**
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	NOEC	Toxicity > Water solubility	21 day	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	NOEC	1 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Butyl hydroxytoluene 128-37-0	NOEC	0,069 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
2-Hydroxyethyl acrylate 818-61-1	NOEC	0,86 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- 84170-74-1	EC50	11 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- 84170-74-1	EC10	2,3 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Dicyclopentyldimethylene diacrylate 42594-17-2	EC50	1,6 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Dicyclopentyldimethylene diacrylate 42594-17-2	EC10	0,64 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	EC50	25,7 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	EC10	12,9 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	EC50	Toxicity > Water solubility	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	NOEC	Toxicity > Water solubility	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Triacrylate ester 52408-84-1	EC50	12,2 mg/l	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Triacrylate ester 52408-84-1	EC10	2,06 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	EC50	14,4 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	EC10	2,51 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	NOEC	0,22 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	EC50	1,68 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Butyl hydroxytoluene 128-37-0	EC50	Toxicity > Water solubility	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
Butyl hydroxytoluene 128-37-0	EC10	0,4 mg/l	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
2-Hydroxyethyl acrylate 818-61-1	EC50	6 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl acrylate 818-61-1	NOEC	1 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity (microorganisms):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances	Value	Value	Exposure time	Species	Method

CAS-No.	type				
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	EC50	> 100 mg/l	3 h		OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Hexan-6-olide 502-44-3	EC0	32 mg/l	16 h		not specified
Triacrylate ester 52408-84-1	EC20	507 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	EC10	> 100 mg/l	3 h	activated sludge	EU Method C.11 (Biodegradation: Activated Sludge Respiration Inhibition Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	IC50	100 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Butyl hydroxytoluene 128-37-0	EC50	Toxicity > Water solubility	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2-Hydroxyethyl acrylate 818-61-1	EC10	> 100 mg/l	72 h	activated sludge, domestic	other guideline:
Triphenyl phosphite 101-02-0	EC50	> 100 mg/l	3 h		OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- 84170-74-1	not readily biodegradable.	aerobic	41 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Dicyclopentyldimethylene diacrylate 42594-17-2	not readily biodegradable.	aerobic	28 %	28 day	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	not readily biodegradable.	aerobic	14,5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	not readily biodegradable.	aerobic	1 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Hexan-6-olide 502-44-3	readily biodegradable	aerobic	100 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Triacrylate ester 52408-84-1	readily biodegradable	aerobic	72 - 85 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	readily biodegradable	aerobic	73 %	28 d	EU Method C.4-C (Determination of the "Ready" BiodegradabilityCarbon Dioxide Evolution Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	not readily biodegradable.	aerobic	38 %	28 d	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
Butyl hydroxytoluene 128-37-0	not readily biodegradable.	aerobic	4,5 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Butyl hydroxytoluene 128-37-0	not inherently biodegradable	aerobic	5,2 - 5,6 %	35 d	OECD Guideline 302 C (Inherent Biodegradability: Modified MITI Test (II))
2-Hydroxyethyl acrylate 818-61-1	readily biodegradable	aerobic	> 79 - 80 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Triphenyl phosphite 101-02-0	readily biodegradable	aerobic	84 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

12.3. Bioaccumulative potential

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	< 5				OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
1-Hydroxycyclohexyl phenyl ketone 947-19-3	> 3,5 - 12	56 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	< 31,4	56 d	24,5 °C	Cyprinus carpio	other guideline:
Butyl hydroxytoluene 128-37-0	330 - 1.800	56 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)

12.4. Mobility in soil

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	LogPow	Temperature	Method
Poly[oxy(methyl-1,2-ethanediyl)], α,α′-(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]- 84170-74-1	> 1 - 4,86		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Dicyclopentyldimethylene diacrylate 42594-17-2	4,6		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	1,85	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	5,8		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Hexan-6-olide 502-44-3	0,68		not specified
1-Hydroxycyclohexyl phenyl ketone 947-19-3	2,81	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	> 2,37 - 2,77	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Butyl hydroxytoluene 128-37-0	5,1		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
2-Hydroxyethyl acrylate 818-61-1	-0,17	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Triphenyl phosphite 101-02-0	6,62	25 °C	QSAR (Quantitative Structure Activity Relationship)

12.5. Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or vPvB.

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:
Do not empty into drains / surface water / ground water.
Dispose of in accordance with local and national regulations.

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.

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 or ID 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. (Neopentylglycol PO diacrylate,(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Neopentylglycol PO diacrylate,(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Neopentylglycol PO diacrylate,(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Neopentylglycol PO diacrylate,(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate)
IATA	Environmentally hazardous substance, liquid, n.o.s. (Neopentylglycol PO diacrylate,(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	Environmentally Hazardous
RID	Environmentally Hazardous

ADN	Environmentally Hazardous
IMDG	Marine Pollutant
IATA	Environmentally Hazardous

14.6. Special precautions for user

ADR	not applicable Tunnelcode:
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), A197 (IATA), 2.10.2.7 (IMDG), NZ 4.3(10) may be applied, which can result in a deviation from the transport classification for packed goods.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

Ozone Depleting Substance (ODS) (Regulation (EC) No 2024/590):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable

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

National regulations/information (Germany):

WGK:	WGK 2: significantly water endangering (Ordinance on facilities for handling substances that are hazardous to water (AwSV)) Classification according to AwSV, Annex 1 (5.2)
Storage class according to TRGS 510:	6.1D
General remarks (DE):	This product is in scope of the German regulation "ChemikalienVerbotsVerordnung"

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

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:

H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H360D May damage the unborn child.
H360F May damage fertility.
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.
H413 May cause long lasting harmful effects to aquatic life.

Abbreviations and acronyms:

ADG(-Code): Australian Dangerous Goods (Code)
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
ASTM: American Society for Testing and Materials
ATE: acute toxicity estimate
AS: Australian Standard
AwSV: Ordinance on Installations for the Handling of Substances Hazardous to Water
CAS: Chemical Abstract Service
CLP: Regulation (EC) No 1272/2008
CMR: cancerogenic, mutagenic or reprotoxic
DIN: German Institute for Standardization
ECx: Effective concentration (x% effective level)
ECHA: European Chemicals Agency
EC-Nummer: Substance number in the EU-inventories EINECS/ELINCS
ECTLV: European community threshold limit value
ED:Substance identified as having endocrine disrupting properties
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
EN : European Standard
ENCS: Japanese chemical inventory
EPA: US Environmental Protection Agency
EU: European Union
EU EXPLD1: Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD2: Substance listed in Annex II, Reg (EC) No. 2019/1148
EWC: European Waste Catalogue
GHS: Globally Harmonised System for Classification and Labelling of Chemicals
GLP: Good Laboratory Practice
HSNO: Hazardous Substances and New Organisms
IARC: International Agency for Research of Cancer
IATA: International Air Transport Association
IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization
IMDG-Code: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization
ISO: International Standardization Organisation
LC50: Median lethal concentration
LD50: Median lethal dose
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
n.o.s.: not otherwise specified
NO(A)EC: No (adverse) effect concentration
NO(A)EL: No (adverse) effect level

NZS: New Zealand Standard
OECD: Organisation for Economic Co-operation and Development
OEL: Occupational Exposure Limit
OPPT: US EPA Office of Pollution Prevention and Toxics
OPPTS: US EPA Office of Prevention, Pesticides and Toxic Substances
PBT: Persistent, bioaccumulative, toxic
(Q)SAR: (Quantitative) structure–activity relationship
REACH: Regulation (EC) No. 1907/2006
RID: Regulations concerning the International Transport of Dangerous Goods by Rail
SADT: Self Accelerating Decomposition Temperature
SDS: Safety Data Sheet
STOT: Specific Target Organ Toxicity
STOT SE: Specific Target Organ Toxicity - single exposure
STOT RE: Specific Target Organ Toxicity - repeated exposure
SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons
SVHC: Substance of very high concern (REACH Candidate List)
TRGS: German Technical Rules for hazardous substances
UN: United Nations
VOC: Volatile Organic Compound
814.018 VOC Reg CH: Swiss Ordinance 814.018 on the Incentive Tax on Volatile Organic Compounds
vPvB: Very persistent, very bioaccumulative
VwVwS: Administrative Regulation on Substances Hazardous to Waters
WGK: Water hazard class

Further information:

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