



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

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LOCTITE 3D IND406 HDT100 High Elongation

SDS No. : 720836

V003.0

Revision: 28.04.2023

printing date: 19.05.2023

Replaces version from: 28.11.2022

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

#### 1.1. Product identifier

LOCTITE 3D IND406 HDT100 High Elongation

#### 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 Ltd

Adhesives

Wood Lane End

HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or [www.henkel-adhesives.com](http://www.henkel-adhesives.com).

#### 1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

### SECTION 2: Hazards identification

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

##### Classification (CLP):

Acute toxicity	Category 4
H302 Harmful if swallowed.	
Route of Exposure: Oral	
Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation.	
Target organ: respiratory tract irritation	
Chronic hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

#### 2.2. Label elements

##### Label elements (CLP):

**Hazard pictogram:****Contains**

5-methyl-3-vinyl-1,3-oxazolidin-2-one

7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahehexadecane-1,16-diyl bismethacrylate

2-Hydroxyethyl methacrylate

Tris(2-acryloxyethyl) isocyanurate

Triacrylate ester

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Reaction mass of pentamethyl-4-piperidylsebacates

2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester

Isobornyl acrylate

**Signal word:**

Danger

**Hazard statement:**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

**Precautionary statement:  
Prevention**

P273 Avoid release to the environment.

P261 Avoid breathing vapors.

P280 Wear protective gloves/eye 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.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

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  $\geq$  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  $\geq$  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 Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0 01-2120734125-63	25- 50 %	Acute Tox. 4, Oral, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335	oral:ATE = 500 mg/kg	
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahehexadecane-1,16-diyl bismethacrylate 72869-86-4 276-957-5 01-2120751202-68	10- 20 %	Skin Sens. 1B, H317 Aquatic Chronic 2, H411		
2-Hydroxyethyl methacrylate 868-77-9 212-782-2 01-2119490169-29	5- < 10 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319		
Tris(2-acryloxyethyl) isocyanurate 40220-08-4 254-843-6 01-2120741502-64	5- < 10 %	Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 2, H411		
Triacrylate ester 52408-84-1 500-114-5 500-114-5 01-2119487948-12	0,1- < 1 %	Eye Irrit. 2, H319 Skin Sens. 1B, H317		
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7 423-340-5 01-2119489401-38 01-2119936813-33	0,1- < 1 %	Skin Sens. 1A, H317 Aquatic Chronic 4, H413		
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	
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	0,1- < 1 %	Eye Irrit. 2, H319 Skin Sens. 1, H317		
Butyl hydroxytoluene 128-37-0 204-881-4 01-2119565113-46	0,1- < 0,25 %	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 1 M chronic = 1	
Isobornyl acrylate 5888-33-5 227-561-6 01-2119957862-25	0,01- < 0,1 %	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 1 M chronic = 1	

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 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.

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

SKIN: Redness, inflammation.

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 (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) 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  
Great Britain

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
2,6-di-tert-Butyl-p-cresol 128-37-0 [2,6-DI-TERT-BUTYL-P-CRESOL]		10	Time Weighted Average (TWA):		EH40 WEL

#### Occupational Exposure Limits

Valid for  
Ireland

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
2,6-di-tert-Butyl-p-cresol 128-37-0 [2,6-DITERTIARY-BUTYL-PARA-CRESOL]		2	Time Weighted Average (TWA):		IR_OEL

**Predicted No-Effect Concentration (PNEC):**

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	sewage treatment plant (STP)		0,35 mg/l				
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	aqua (freshwater)		0,01 mg/l				
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	aqua (intermittent releases)		0,1 mg/l				
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	aqua (marine water)		0,001 mg/l				
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	sewage treatment plant (STP)		3,61 mg/l				
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	sediment (freshwater)				4,56 mg/kg		
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	sediment (marine water)				0,46 mg/kg		
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	Soil				0,91 mg/kg		
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	Predator						no potential for bioaccumulation
2-Hydroxyethyl methacrylate 868-77-9	aqua (freshwater)		0,482 mg/l				
2-Hydroxyethyl methacrylate 868-77-9	aqua (marine water)		0,482 mg/l				
2-Hydroxyethyl methacrylate 868-77-9	sewage treatment plant (STP)		10 mg/l				
2-Hydroxyethyl methacrylate 868-77-9	aqua (intermittent releases)		1 mg/l				
2-Hydroxyethyl methacrylate 868-77-9	sediment (freshwater)				3,79 mg/kg		
2-Hydroxyethyl methacrylate 868-77-9	sediment (marine water)				3,79 mg/kg		
2-Hydroxyethyl methacrylate 868-77-9	Soil				0,476 mg/kg		
2-Hydroxyethyl methacrylate 868-77-9	Predator						no potential for bioaccumulation
2-Hydroxyethyl methacrylate 868-77-9	Marine water - intermittent		1 mg/l				
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triy)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)-triy)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)-triy)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)-triy)tri-2,1-ethanediyl triacrylate	aqua (marine water)		0,000943 mg/l				

40220-08-4							
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triy)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)-triy)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)-triy)tri-2,1-ethanediyl triacrylate 40220-08-4	Soil				0,118 mg/kg		
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		
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		
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	aqua (intermittent releases)		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 1065336-91-5	Predator						no potential for bioaccumulation
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
Isobornyl acrylate 5888-33-5	aqua (freshwater)		0,001 mg/l				
Isobornyl acrylate 5888-33-5	aqua (intermittent releases)		0,007 mg/l				
Isobornyl acrylate 5888-33-5	aqua (marine water)		0,0001 mg/l				
Isobornyl acrylate 5888-33-5	sewage treatment plant (STP)		2 mg/l				
Isobornyl acrylate 5888-33-5	sediment (freshwater)				0,145 mg/kg		
Isobornyl acrylate 5888-33-5	sediment (marine water)				0,0145 mg/kg		
Isobornyl acrylate 5888-33-5	Soil				0,0285 mg/kg		
Isobornyl acrylate 5888-33-5	Predator						no potential for bioaccumulation



**Derived No-Effect Level (DNEL):**

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	Workers	inhalation	Long term exposure - systemic effects		4,4 mg/m <sup>3</sup>	
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	Workers	dermal	Long term exposure - systemic effects		0,6 mg/kg	
2-Hydroxyethyl methacrylate 868-77-9	Workers	dermal	Long term exposure - systemic effects		1,3 mg/kg	no potential for bioaccumulation
2-Hydroxyethyl methacrylate 868-77-9	Workers	Inhalation	Long term exposure - systemic effects		4,9 mg/m <sup>3</sup>	no potential for bioaccumulation
2-Hydroxyethyl methacrylate 868-77-9	General population	dermal	Long term exposure - systemic effects		0,83 mg/kg	no potential for bioaccumulation
2-Hydroxyethyl methacrylate 868-77-9	General population	Inhalation	Long term exposure - systemic effects		2,9 mg/m <sup>3</sup>	no potential for bioaccumulation
2-Hydroxyethyl methacrylate 868-77-9	General population	oral	Long term exposure - systemic effects		0,83 mg/kg	no potential for bioaccumulation
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triy)tri-2,1-ethanediyl triacrylate 40220-08-4	Workers	inhalation	Long term exposure - systemic effects		1,65 mg/m <sup>3</sup>	
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triy)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)-triy)tri-2,1-ethanediyl triacrylate 40220-08-4	General population	inhalation	Long term exposure - systemic effects		0,29 mg/m <sup>3</sup>	
(2,4,6-Trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triy)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)-triy)tri-2,1-ethanediyl triacrylate 40220-08-4	General population	dermal	Long term exposure - systemic effects		0,83 mg/kg	
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	Workers	inhalation	Long term exposure - systemic effects		7,4 mg/m <sup>3</sup>	
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	Workers	dermal	Long term exposure - systemic effects		2,1 mg/kg	
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	Workers	Inhalation	Long term exposure - systemic effects		21 mg/m <sup>3</sup>	
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/m <sup>3</sup>	
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	
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Workers	inhalation	Long term exposure - systemic effects		1,27 mg/m <sup>3</sup>	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Workers	dermal	Long term exposure - systemic effects		1,8 mg/kg	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	General population	dermal	Long term exposure - systemic effects		0,9 mg/kg	no potential for bioaccumulation

Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	General population	inhalation	Long term exposure - systemic effects		0,31 mg/m3	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	General population	oral	Long term exposure - systemic effects		0,18 mg/kg	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
Isobornyl acrylate 5888-33-5	Workers	dermal	Long term exposure - systemic effects		1,39 mg/kg	no potential for bioaccumulation
Isobornyl acrylate 5888-33-5	General population	oral	Long term exposure - systemic effects		0,83 mg/kg	no potential for bioaccumulation
Isobornyl acrylate 5888-33-5	General population	dermal	Long term exposure - systemic effects		0,83 mg/kg	no potential for bioaccumulation

**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 &gt; 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; &gt;= 0.4 mm thickness)

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

nitrile rubber (NBR; &gt;= 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	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic) (40 °C (104 °F); )	> 20,5 mm <sup>2</sup> /s
Viscosity, dynamic ( )	1.000 mPa.s no method / method unknown
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	practically insoluble
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure (20 °C (68 °F))	Mixture < 1,3 kPa
Density (20 °C (68 °F))	1,10 g/cm <sup>3</sup> 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.

Hazardous substances CAS-No.	Value type	Value	Species	Method
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	LD50	> 300 - < 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	Acute toxicity estimate (ATE)	500 mg/kg		Expert judgement
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
2-Hydroxyethyl methacrylate 868-77-9	LD50	5.564 mg/kg	rat	FDA Guideline
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)
Triacrylate ester 52408-84-1	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (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)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	LD50	3.230 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	LD50	5.564 mg/kg	rat	FDA Guideline
Butyl hydroxytoluene 128-37-0	LD50	> 6.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Isobornyl acrylate 5888-33-5	LD50	4.350 mg/kg	rat	not specified

**Acute dermal toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
2-Hydroxyethyl methacrylate 868-77-9	LD50	> 5.000 mg/kg	rabbit	not specified
Triacrylate ester 52408-84-1	LD50	> 2.000 mg/kg	rabbit	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)
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
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	LD50	> 5.000 mg/kg	rabbit	not specified
Butyl hydroxytoluene 128-37-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Isobornyl acrylate 5888-33-5	LD50	> 3.000 mg/kg	rabbit	not specified

**Acute inhalative toxicity:**

No data available.

**Skin corrosion/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
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	not corrosive	1 h	Human, EpiDerm™ SIT (EPI-200), Reconstructed Human Epidermis (RHE)	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	irritating or corrosive	1 h	Human, EpiDerm™ SIT (EPI-200), Reconstructed Human Epidermis (RHE)	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2-Hydroxyethyl methacrylate 868-77-9	slightly irritating	24 h	rabbit	Draize Test
Triacrylate ester 52408-84-1	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	not irritating	24 h	rabbit	Draize Test
Butyl hydroxytoluene 128-37-0	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Isobornyl acrylate 5888-33-5	irritating		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
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	corrosive		Bovine, cornea, in vitro test	OECD Guideline 437 (BCOP)
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	no prediction can be made		Reconstructed three dimensional human cornea model (EpiOcular™)	EpiOcular tissue model
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	not irritating	24 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2-Hydroxyethyl methacrylate 868-77-9	Category 2B (mildly irritating to eyes)		rabbit	Draize Test
Triacrylate ester 52408-84-1	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	irritating		rabbit	Draize Test
Butyl hydroxytoluene 128-37-0	slightly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

**Respiratory or skin sensitization:**

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

<b>Hazardous substances CAS-No.</b>	<b>Result</b>	<b>Test type</b>	<b>Species</b>	<b>Method</b>
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazaheptadecane-1,16-diyl bismethacrylate 72869-86-4	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
2-Hydroxyethyl methacrylate 868-77-9	not sensitising	Buehler test	guinea pig	Buehler test
2-Hydroxyethyl methacrylate 868-77-9	sensitising	Guinea pig maximisation test	guinea pig	Magnusson and Kligman Method
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	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	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
Isobornyl acrylate 5888-33-5	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

**Germ cell mutagenicity:**

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
2-Hydroxyethyl methacrylate 868-77-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2-Hydroxyethyl methacrylate 868-77-9	positive	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
2-Hydroxyethyl methacrylate 868-77-9	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation 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)
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
Isobornyl acrylate 5888-33-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Isobornyl acrylate 5888-33-5	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Isobornyl acrylate 5888-33-5	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
2-Hydroxyethyl methacrylate 868-77-9	negative	oral: gavage		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
2-Hydroxyethyl methacrylate 868-77-9	negative	oral: gavage		Drosophila melanogaster	not specified
Triacrylate ester 52408-84-1	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Butyl hydroxytoluene 128-37-0	negative	oral: feed		rat	not specified

**Carcinogenicity**

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
2-Hydroxyethyl methacrylate 868-77-9	not carcinogenic	inhalation	2 y 6 h/d, 5 d/w	rat	female	equivalent or similar OECD Guideline 451 (Carcinogenicity Studies)
2-Hydroxyethyl methacrylate 868-77-9	not carcinogenic	inhalation	2 y 6 h/d, 5 d/w	rat	male	equivalent or similar OECD Guideline 451 (Carcinogenicity Studies)
Butyl hydroxytoluene 128-37-0		oral: feed	2 y daily	rat	male	



**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
2-Hydroxyethyl methacrylate 868-77-9	NOAEL P $\geq$ 1.000 mg/kg NOAEL F1 $\geq$ 1.000 mg/kg	screening	oral: gavage	rat	equivalent or similar to OECD Guideline 422 (Combined Repeated Dose Toxicity Study)
Triacrylate ester 52408-84-1	NOAEL P 750 mg/kg NOAEL F1 $\geq$ 750 mg/kg	screening	oral: gavage	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
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
Isobornyl acrylate 5888-33-5	NOAEL P 100 mg/kg NOAEL F1 100 mg/kg	screening	oral: gavage	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

**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.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
5-methyl-3-vinyl-1,3- oxazolidin-2-one 3395-98-0	NOAEL 50 mg/kg	oral: gavage	M: 30+ days; F: 52+ days daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
2-Hydroxyethyl methacrylate 868-77-9	NOAEL 100 mg/kg	oral: gavage	49 d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
2-Hydroxyethyl methacrylate 868-77-9	NOAEL 0,352 mg/l	inhalation	90 d 6 h/d, 5 d/w	rat	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
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)
Butyl hydroxytoluene 128-37-0	NOAEL 25 mg/kg	oral: feed	daily	rat	not specified
Isobornyl acrylate 5888-33-5	NOAEL 100 mg/kg	oral: gavage	once daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity 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
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	LC50	> 120 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	LC50	10,1 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-Hydroxyethyl methacrylate 868-77-9	LC50	> 100 mg/l	96 h	Oryzias latipes	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)
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)
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)
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)
Isobornyl acrylate 5888-33-5	LC50	0,704 mg/l	96 h	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
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	EC50	> 120 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	EC50	> 1,2 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-Hydroxyethyl methacrylate 868-77-9	EC50	380 mg/l	48 h	Daphnia magna	OECD Guideline 202 (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)
Triacrylate ester 52408-84-1	EC50	91,4 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine	EC50	Toxicity > Water solubility	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

oxide 162881-26-7					Immobilisation Test)
Butyl hydroxytoluene 128-37-0	EC50	0,48 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Isobornyl acrylate 5888-33-5	EC50	1 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

**Chronic toxicity (aquatic invertebrates):**

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
2-Hydroxyethyl methacrylate 868-77-9	NOEC	24,1 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
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)
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)
Isobornyl acrylate 5888-33-5	NOEC	0,092 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
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	EC50	> 120 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	NOEC	120 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	NOEC	0,21 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	EC50	836 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	NOEC	400 mg/l	72 h	Selenastrum capricornutum (new name: 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)
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)
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)
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)
Isobornyl acrylate 5888-33-5	NOEC	0,405 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Isobornyl acrylate 5888-33-5	EC50	1,98 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 CAS-No.	Value type	Value	Exposure time	Species	Method
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	EC50	110 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	EC0	> 3.000 mg/l	16 h	Pseudomonas fluorescens	other guideline:
Triacrylate ester 52408-84-1	EC20	507 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Phenyl bis(2,4,6-	EC 50	> 100 mg/l	3 h		OECD Guideline 209

trimethylbenzoyl)-phosphine oxide 162881-26-7					(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)

## 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
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	not readily biodegradable.	aerobic	< 10 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	not readily biodegradable.	aerobic	22 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
2-Hydroxyethyl methacrylate 868-77-9	readily biodegradable	aerobic	92 - 100 %	14 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	not readily biodegradable.	aerobic	14,5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Triacrylate ester 52408-84-1	readily biodegradable	aerobic	72 - 85 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution 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)
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)
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	readily biodegradable	aerobic	92 - 100 %	14 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
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))
Isobornyl acrylate 5888-33-5	inherently biodegradable	aerobic	73,9 %	60 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Isobornyl acrylate 5888-33-5	not readily biodegradable.	aerobic	57 %	28 d	OECD Guideline 310 (Ready Biodegradability CO2 in Sealed Vessels (Headspace 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)
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)
Isobornyl acrylate 5888-33-5	37	56 h	24 °C	Danio rerio	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

**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
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	0,8	23 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	3,39	20 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
2-Hydroxyethyl methacrylate 868-77-9	0,42	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask 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)
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)
Isobornyl acrylate 5888-33-5	4,52		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

**12.5. Results of PBT and vPvB assessment**

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

Hazardous substances CAS-No.	PBT / vPvB
5-methyl-3-vinyl-1,3-oxazolidin-2-one 3395-98-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2-Hydroxyethyl methacrylate 868-77-9	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Tris(2-acryloxyethyl) isocyanurate 40220-08-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Triacrylate ester 52408-84-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Butyl hydroxytoluene 128-37-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Isobornyl acrylate 5888-33-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**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**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.2. UN proper shipping name**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

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

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.4. Packing group**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.5. Environmental hazards**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.6. Special precautions for user**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**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 1005/2009):

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)

&lt; 3 %

**15.2. Chemical safety assessment**

A chemical safety assessment has 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.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H361f Suspected of damaging fertility.  
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.  
H413 May cause long lasting harmful effects to aquatic life.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

**Further information:**

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