



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

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LOCTITE 3D IND402 A70 High Rebound Grey

SDS No. : 724145
V003.0

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

1.1. Product identifier

LOCTITE 3D IND402 A70 High Rebound Grey

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.

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	
Specific target organ toxicity - repeated exposure	Category 2
H373 May cause damage to organs through prolonged or repeated exposure.	
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**

Aliphatic Urethane Acrylate Oligomer

Morpholine, 4-(1-oxo-2-propenyl)-
1H-Pyrrole-2,5-dione, 1-phenyl-
2-Hydroxyethyl methacrylate

Reaction mass of pentamethyl-4-piperidylsebacates
1-Cyclohexyl-1H-pyrrole-2,5-dione

Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide
Triacrylate ester
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.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statement:
Prevention**

P273 Avoid release to the environment.
P280 Wear protective gloves/eye protection.
P261 Avoid breathing vapors.

**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
Aliphatic Urethane Acrylate Oligomer	50- 100 %	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335		
Morpholine, 4-(1-oxo-2-propenyl)- 5117-12-4 418-140-1 01-2120102080-83	10- 20 %	Acute Tox. 4, Oral, H302 Skin Sens. 1, H317 Eye Dam. 1, H318 STOT RE 2, H373	dermal:ATE = 2.500 mg/kg	
1H-Pyrrole-2,5-dione, 1-phenyl- 941-69-5 213-382-0	5- < 10 %	Acute Tox. 3, Oral, H301 Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 1 M chronic = 1	
2-Hydroxyethyl methacrylate 868-77-9 212-782-2 01-2119490169-29	1- < 5 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319		
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	
1-Cyclohexyl-1H-pyrrole-2,5-dione 1631-25-0 216-630-6	0,1- < 1 %	Acute Tox. 3, Oral, H301 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 3, H412	M acute = 1	
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8 278-355-8 01-2119972295-29	0,1- < 1 %	Repr. 2, H361f Aquatic Chronic 2, H411 Skin Sens. 1B, H317		
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		
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-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	0,1- < 1 %	Eye Irrit. 2, H319 Skin Sens. 1, H317		
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 (CO₂) and nitrogen oxides (NO_x) 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

Dispose of contaminated material as waste according to Section 13.

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

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

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Avoid skin and eye contact.

See advice in section 8

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

7.2. Conditions for safe storage, including any incompatibilities

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 ³	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 ³	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	
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				
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
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	aqua (freshwater)		0,0014 mg/l				
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	aqua (marine water)		0,00014 mg/l				
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Freshwater - intermittent		0,014 mg/l				
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Marine water - intermittent		0,0014 mg/l				
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	sediment (freshwater)				0,115 mg/kg		
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	sediment (marine water)				0,0115 mg/kg		
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Soil				0,0222 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	aqua (intermittent)		0,057 mg/l				

52408-84-1	releases)						
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		
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
4-(1-oxo-2-propenyl)-morpholine 5117-12-4	Workers	inhalation	Long term exposure - systemic effects		5,3 mg/m ³	
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 ³	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 ³	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
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Workers	inhalation	Long term exposure - systemic effects		1,27 mg/m ³	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/m ³	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
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Workers	inhalation	Long term exposure - systemic effects		0,822 mg/m ³	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Workers	dermal	Long term exposure - systemic effects		0,233 mg/kg	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	General population	inhalation	Long term exposure - systemic effects		0,145 mg/m ³	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	General population	dermal	Long term exposure - systemic effects		0,0833 mg/kg	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	General population	oral	Long term exposure - systemic effects		0,0833 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 ³	
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	Workers	dermal	Long term exposure - systemic effects		2,1 mg/kg	
2,6-Di-tert-butyl-p-cresol 128-37-0	Workers	inhalation	Long term exposure - systemic effects		3,5 mg/m ³	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/m ³	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 -		1,39 mg/kg	no potential for bioaccumulation

			systemic effects			
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 > 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	grey
Odor	Acrylic
Physical state	liquid
Melting point	Currently under determination
Initial boiling point	Currently under determination
Flammability	Currently under determination
Explosive limits	Currently under determination
Flash point	> 93,3 °C (> 199.94 °F)
Auto-ignition temperature	Currently under determination
Decomposition temperature	Currently under determination
pH	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic)	Currently under determination
Viscosity, dynamic	13.000 mPa.s no method / method unknown

()	
Solubility (qualitative)	Currently under determination
Partition coefficient: n-octanol/water	Currently under determination
Vapour pressure	Currently under determination
Density	1,10 g/cm ³ no method / method unknown
()	
Relative vapour density:	Currently under determination
Particle characteristics	Currently under determination

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with strong oxidants.

Acids.

Reducing agents.

Strong bases.

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
Morpholine, 4-(1-oxo-2-propenyl)- 5117-12-4	LD50	588 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
1H-Pyrrole-2,5-dione, 1-phenyl- 941-69-5	LD50	128 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
2-Hydroxyethyl methacrylate 868-77-9	LD50	5.564 mg/kg	rat	FDA Guideline
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	LD50	3.230 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
1-Cyclohexyl-1H-pyrrole-2,5-dione 1631-25-0	LD50	130,5 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Triacrylate ester 52408-84-1	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Butyl hydroxytoluene 128-37-0	LD50	> 6.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	LD50	5.564 mg/kg	rat	FDA Guideline
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
Morpholine, 4-(1-oxo-2-propenyl)- 5117-12-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Morpholine, 4-(1-oxo-2-propenyl)- 5117-12-4	Acute toxicity estimate (ATE)	2.500 mg/kg		Expert judgement
2-Hydroxyethyl methacrylate 868-77-9	LD50	> 5.000 mg/kg	rabbit	not specified
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
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Triacrylate ester 52408-84-1	LD50	> 2.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Butyl hydroxytoluene 128-37-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
2-Propenoic acid, 2- methyl-, 2-(2- hydroxyethoxy)ethyl ester 2351-43-1	LD50	> 5.000 mg/kg	rabbit	not specified
Isobornyl acrylate 5888-33-5	LD50	> 3.000 mg/kg	rabbit	not specified

Acute inhalative 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	Test atmosphere	Exposure time	Species	Method
Morpholine, 4-(1-oxo-2-propenyl)- 5117-12-4	LC50	5,28 mg/l	mist	4 h	rat	not specified

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
2-Hydroxyethyl methacrylate 868-77-9	slightly irritating	24 h	rabbit	Draize Test
1-Cyclohexyl-1H-pyrrole-2,5-dione 1631-25-0	irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	not irritating	24 h	rabbit	not specified
Triacrylate ester 52408-84-1	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Butyl hydroxytoluene 128-37-0	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
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
2-Hydroxyethyl methacrylate 868-77-9	Category 2B (mildly irritating to eyes)		rabbit	Draize Test
1-Cyclohexyl-1H-pyrrole-2,5-dione 1631-25-0	corrosive		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	not irritating		rabbit	not specified
Triacrylate ester 52408-84-1	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Butyl hydroxytoluene 128-37-0	slightly 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

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
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
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
1-Cyclohexyl-1H-pyrrole-2,5-dione 1631-25-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	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)
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)
1-Cyclohexyl-1H-pyrrole-2,5-dione 1631-25-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	negative	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)
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)
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)
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
Morpholine, 4-(1-oxo-2-propenyl)- 5117-12-4	NOAEL 20 - 50 mg/kg	oral: unspecified	90 d	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
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)
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	NOAEL 100 mg/kg	oral: gavage	3 m 5 d/w	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)
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
1H-Pyrrole-2,5-dione, 1-phenyl- 941-69-5	LC50	0,32 mg/l	96 h	Fundulus sp.	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)
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)
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	LC50	1,4 mg/l	96 h	Cyprinus carpio	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)
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
Morpholine, 4-(1-oxo-2-propenyl)- 5117-12-4	EC50	120 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1H-Pyrrole-2,5-dione, 1-phenyl- 941-69-5	EC50	1,4 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)
1-Cyclohexyl-1H-pyrrole-2,5- dione 1631-25-0	EC50	0,131 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	EC50	3,53 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)
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)
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
Morpholine, 4-(1-oxo-2-propenyl)- 5117-12-4	EC50	> 120 mg/l	72 h	not specified	OECD Guideline 201 (Algal Growth Inhibition Test)
1H-Pyrrole-2,5-dione, 1-phenyl- 941-69-5	NOEC	< 0,49 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Algal Growth Inhibition Test)
1H-Pyrrole-2,5-dione, 1-phenyl- 941-69-5	EC50	0,88 mg/l	72 h	Pseudokirchneriella subcapitata	EPA OTS 797.1050 (Algal Toxicity, Tiers I and II)
2-Hydroxyethyl methacrylate 868-77-9	EC50	836 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Algal Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	NOEC	400 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Algal Growth Inhibition Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	NOEC	0,22 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Algal Growth Inhibition Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	EC50	1,68 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Algal Growth Inhibition Test)
1-Cyclohexyl-1H-pyrrole-2,5-dione 1631-25-0	EC50	0,646 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
1-Cyclohexyl-1H-pyrrole-2,5-dione 1631-25-0	NOEC	0,646 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	EC50	> 2,01 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	EC10	1,56 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
Triacrylate ester 52408-84-1	EC50	12,2 mg/l	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	OECD Guideline 201 (Algal Growth Inhibition Test)
Triacrylate ester 52408-84-1	EC10	2,06 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Algal 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 (Algal Growth Inhibition Test)
Isobornyl acrylate 5888-33-5	EC50	1,98 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal 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
2-Hydroxyethyl methacrylate 868-77-9	EC0	> 3.000 mg/l	16 h	Pseudomonas fluorescens	other guideline:
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)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	EC 50	> 1.000 mg/l	30 min		OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Triacrylate ester 52408-84-1	EC20	507 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge,

Butyl hydroxytoluene 128-37-0	EC50	Toxicity > Water solubility	3 h	activated sludge	Respiration Inhibition Test) OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
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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
Aliphatic Urethane Acrylate Oligomer	readily biodegradable		> 60 %	28 day	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
1H-Pyrrole-2,5-dione, 1- phenyl- 941-69-5	not readily biodegradable.	not specified	6 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
2-Hydroxyethyl methacrylate 868-77-9	readily biodegradable	aerobic	92 - 100 %	14 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
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)
1-Cyclohexyl-1H-pyrrole-2,5- dione 1631-25-0	readily biodegradable	aerobic	82 %	28 d	EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test)
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	not readily biodegradable.	aerobic	0 - 10 %	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)
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-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))
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.	Bioconcentratio n factor (BCF)	Exposure time	Temperature	Species	Method
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
1H-Pyrrole-2,5-dione, 1-phenyl- 941-69-5	1,16	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
2-Hydroxyethyl methacrylate 868-77-9	0,42	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)
1-Cyclohexyl-1H-pyrrole-2,5-dione 1631-25-0	2,57	23 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	3,1	23 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC 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
Morpholine, 4-(1-oxo-2-propenyl)- 5117-12-4	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.
Reaction mass of pentamethyl-4- piperidylsebacates 1065336-91-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Triacrylate ester 52408-84-1	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**

ADR	3082
RID	3082
ADN	3082
IMDG	3082
IATA	3082

14.2. UN proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (n-Phenylmaleimide)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (n-Phenylmaleimide)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (n-Phenylmaleimide)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (n-Phenylmaleimide)
IATA	Environmentally hazardous substance, liquid, n.o.s. (n-Phenylmaleimide)

14.3. Transport hazard class(es)

ADR	9
RID	9
ADN	9
IMDG	9
IATA	9

14.4. Packing group

ADR	III
RID	III
ADN	III
IMDG	III
IATA	III

14.5. Environmental hazards

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

14.6. Special precautions for user

ADR	not applicable
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	Tunnelcode:
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) 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 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)	< 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:

H301 Toxic if swallowed.
 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.
 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.

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

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

Annex - Exposure Scenarios:

Exposure Scenarios for 2-Hydroxyethyl methacrylate can be downloaded under the following link:
<https://mysds.henkel.com/index.html#/appSelection>