



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

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LOCTITE 3D MED9851 Clear

SDS No. : 813674
V002.0

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

1.1. Product identifier

LOCTITE 3D MED9851 Clear

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):

Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Chronic hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Contains

2-Hydroxyethyl methacrylate

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

Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate

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

Triacrylate ester
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate

Ethylene dimethacrylate

Signal word:

Warning

Hazard statement:

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.

**Precautionary statement:
Prevention**

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

**Precautionary statement:
Response**

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

2.3. Other hazards

None if used properly.

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
2-Hydroxyethyl methacrylate 868-77-9 212-782-2 01-2119490169-29	25- 50 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319		
Tricyclodecanedimethanol, polymer with .alpha.-hy 444022-58-6	25- 50 %	Skin Irrit. 2, H315 Eye Irrit. 2, H319		
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4 276-957-5 01-2120751202-68	10- 20 %	Skin Sens. 1B, H317 Aquatic Chronic 2, H411		
Isobornyl methacrylate 7534-94-3 231-403-1 01-2119886505-27	5- < 10 %	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412	STOT SE 3; H335; C >= 10 %	
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7 282-810-6 01-2119987994-10	0,25- < 2,5 %	Aquatic Chronic 2, H411 Skin Sens. 1B, H317		
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	1- < 5 %	Eye Irrit. 2, H319 Skin Sens. 1, 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		
Mixture of less 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone and 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone 163702-01-0 402-990-3 01-0000015270-82	0,1- < 3 %	Repr. 2, H361f		
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5 256-032-2 01-2119484613-34	0,1- < 1 %	Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411	STOT SE 3; H335; C >= 10 %	
Butyl hydroxytoluene 128-37-0 204-881-4 01-2119565113-46	0,025- < 0,25 %	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 1 M chronic = 1	
methacrylic acid 79-41-4 201-204-4 01-2119463884-26	0,1- < 1 %	Acute Tox. 4, Oral, H302 Acute Tox. 3, Dermal, H311 Acute Tox. 4, Inhalation, H332 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335	STOT SE 3; H335; C >= 1 % ===== dermal:ATE = 500 mg/kg inhalation:ATE = 3,61 mg/l;dust/mist	
Ethylene dimethacrylate 97-90-5 202-617-2	0,025- < 0,25 %	STOT SE 3, H335 Skin Sens. 1, H317 Aquatic Chronic 3, H412	STOT SE 3; H335; C >= 10 %	

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

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

Skin contact:

Rinse with running water and soap.

Obtain medical attention if irritation persists.

Eye contact:

Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:

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

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

SKIN: Rash, Urticaria.

SKIN: Redness, inflammation.

EYE: Irritation, conjunctivitis.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

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

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
Methacrylic acid 79-41-4 [METHACRYLIC ACID]	20	72	Time Weighted Average (TWA):		EH40 WEL
Methacrylic acid 79-41-4 [METHACRYLIC ACID]	40	143	Short Term Exposure Limit (STEL):	15 minutes	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
Methacrylic acid 79-41-4 [METHACRYLIC ACID]	20	70	Time Weighted Average (TWA):		IR_OEL
Methacrylic acid 79-41-4 [METHACRYLIC ACID]	40	140	Short Term Exposure Limit (STEL):	15 minutes	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				
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
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	aqua (freshwater)		4,66 µg/l				
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Soil				0,118 mg/kg		
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	sewage treatment plant (STP)		2,45 mg/l				
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	sediment (freshwater)				0,604 mg/kg		
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	aqua (intermittent releases)		0,0179 mg/l				
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	aqua (marine water)		0,000466 mg/l				

Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	sediment (marine water)				0,06 mg/kg		
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	aqua (freshwater)		0,00101 mg/l				
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	aqua (marine water)		0,000101 mg/l				
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	aqua (intermittent releases)		0,035 mg/l				
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	sediment (freshwater)				0,24 mg/kg		
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	sediment (marine water)				0,024 mg/kg		
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	Soil				0,047 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		
(1-Methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	aqua (freshwater)		0,005 mg/l				
(1-Methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	Freshwater - intermittent		0,046 mg/l				
(1-Methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	aqua (marine water)		0 mg/l				
(1-Methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	sewage treatment plant (STP)		10 mg/l				
(1-Methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	sediment (freshwater)				0,487 mg/kg		
(1-Methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	sediment (marine water)				0,049 mg/kg		
(1-Methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	Soil				0,095 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
methacrylic acid 79-41-4	aqua (freshwater)		0,82 mg/l				
methacrylic acid 79-41-4	aqua (marine water)		0,82 mg/l				
methacrylic acid 79-41-4	sewage treatment plant (STP)		10 mg/l				
methacrylic acid 79-41-4	aqua (intermittent releases)		0,82 mg/l				
methacrylic acid 79-41-4	Soil				1,2 mg/kg		
Ethylene dimethacrylate 97-90-5	aqua (freshwater)		0,139 mg/l				
Ethylene dimethacrylate 97-90-5	aqua (marine water)		0,0139 mg/l				
Ethylene dimethacrylate 97-90-5	aqua (intermittent releases)		0,15 mg/l				
Ethylene dimethacrylate 97-90-5	sewage treatment plant (STP)		57 mg/l				
Ethylene dimethacrylate 97-90-5	sediment (freshwater)				1,6 mg/kg		
Ethylene dimethacrylate 97-90-5	sediment (marine water)				0,16 mg/kg		
Ethylene dimethacrylate 97-90-5	Air						no hazard identified
Ethylene dimethacrylate 97-90-5	Soil				0,239 mg/kg		
Ethylene dimethacrylate 97-90-5	Predator						no potential for bioaccumulation

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
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/m3	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/m3	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
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Workers	dermal	Long term exposure - systemic effects		1,04 mg/kg	
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	General population	dermal	Long term exposure - systemic effects		0,625 mg/kg	
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	Workers	dermal	Long term exposure - systemic effects		1,7 mg/kg	
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	Workers	inhalation	Long term exposure - systemic effects		5,88 mg/m3	
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	General population	inhalation	Long term exposure - systemic effects		0,87 mg/m3	
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	General population	dermal	Long term exposure - systemic effects		0,5 mg/kg	
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	General population	oral	Long term exposure - systemic effects		0,5 mg/kg	
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	Workers	inhalation	Long term exposure - systemic effects		7,4 mg/m3	
Glycerol, propoxylated, esters with acrylic acid 1-6.5PO 52408-84-1	Workers	dermal	Long term exposure - systemic effects		2,1 mg/kg	
(1-Methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	Workers	inhalation	Long term exposure - systemic effects		2,35 mg/m3	
(1-Methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	Workers	dermal	Long term exposure - systemic effects		1,7 mg/kg	
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
methacrylic acid 79-41-4	Workers	Inhalation	Long term exposure - local effects		88 mg/m3	
methacrylic acid 79-41-4	Workers	Inhalation	Long term exposure - systemic effects		29,6 mg/m3	
methacrylic acid 79-41-4	Workers	dermal	Long term exposure -		4,25 mg/kg	

			systemic effects			
methacrylic acid 79-41-4	General population	Inhalation	Long term exposure - local effects		6,55 mg/m3	
methacrylic acid 79-41-4	General population	Inhalation	Long term exposure - systemic effects		6,3 mg/m3	
methacrylic acid 79-41-4	General population	dermal	Long term exposure - systemic effects		2,55 mg/kg	
Ethylene dimethacrylate 97-90-5	Workers	inhalation	Long term exposure - systemic effects		2,45 mg/m3	no hazard identified
Ethylene dimethacrylate 97-90-5	Workers	dermal	Long term exposure - systemic effects		1,3 mg/kg	no hazard identified
Ethylene dimethacrylate 97-90-5	General population	inhalation	Long term exposure - systemic effects		1,45 mg/m3	no hazard identified
Ethylene dimethacrylate 97-90-5	General population	dermal	Long term exposure - systemic effects		0,83 mg/kg	no hazard identified
Ethylene dimethacrylate 97-90-5	General population	oral	Long term exposure - systemic effects		0,83 mg/kg	no hazard identified

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	Clear
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); Boiling point
Flammability	The product is not flammable.
Explosive limits	Not applicable, The product is not flammable.
Flash point	> 93 °C (> 199.4 °F) No flash point up to 100 °C
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 ² /s
Viscosity, dynamic (; 20 °C (68 °F))	600 - 700 mPa.s
Solubility (qualitative) (25 °C (77 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable insoluble in water
Vapour pressure (20 °C (68 °F))	< 13 hPa
Density (20 °C (68 °F))	1,0 - 1,2 g/cm ³
Relative vapour density: (20 °C)	< 1
Particle characteristics	Heavier than air 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.
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
2-Hydroxyethyl methacrylate 868-77-9	LD50	5.564 mg/kg	rat	FDA Guideline
Tricyclodecanedimethanol, polymer with .alpha.-hy 444022-58-6	LD50	> 2.000 mg/kg	rat	not specified
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)
Isobornyl methacrylate 7534-94-3	LD50	3.160 mg/kg	rat	not specified
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	LD50	> 5.000 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
Triacrylate ester 52408-84-1	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Mixture of less 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone and 3-(4-(2-Hydroxy-2-m 163702-01-0	LD50	> 2.000 mg/kg	rat	EU Method B.1 (Acute Toxicity (Oral))
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Butyl hydroxytoluene 128-37-0	LD50	> 6.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
methacrylic acid 79-41-4	LD50	1.320 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Ethylene dimethacrylate 97-90-5	LD50	8.700 mg/kg	rat	FDA Guideline

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
2-Hydroxyethyl methacrylate 868-77-9	LD50	> 5.000 mg/kg	rabbit	not specified
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)
Isobornyl methacrylate 7534-94-3	LD50	> 3.000 mg/kg	rabbit	not specified
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	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
Triacrylate ester 52408-84-1	LD50	> 2.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Mixture of less 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone and 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone 163702-01-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	LD50	> 2.000 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Butyl hydroxytoluene 128-37-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
methacrylic acid 79-41-4	LD50	500 - 1.000 mg/kg	rabbit	Dermal Toxicity Screening
methacrylic acid 79-41-4	Acute toxicity estimate (ATE)	500 mg/kg		Expert judgement
Ethylene dimethacrylate 97-90-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)

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
methacrylic acid 79-41-4	LC50	> 3,6 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
methacrylic acid 79-41-4	Acute toxicity estimate (ATE)	3,61 mg/l	dust/mist			Expert judgement

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
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)
Isobornyl methacrylate 7534-94-3	mildly irritating		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
Triacrylate ester 52408-84-1	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	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)
methacrylic acid 79-41-4	corrosive	3 min	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Ethylene dimethacrylate 97-90-5	not irritating	24 h	rabbit	FDA Guideline

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
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-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	irritating		rabbit	Draize Test
Triacrylate ester 52408-84-1	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
(1-methyl-1,2-ethanediyl)bis[oxymethyl-2,1-ethanediyl] diacrylate 42978-66-5	moderately irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Butyl hydroxytoluene 128-37-0	slightly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
methacrylic acid 79-41-4	corrosive		rabbit	Draize Test
Ethylene dimethacrylate 97-90-5	not irritating		rabbit	Draize Test

Respiratory or skin sensitization:

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

Hazardous substances CAS-No.	Result	Test type	Species	Method
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
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate 72869-86-4	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Isobornyl methacrylate 7534-94-3	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	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)
(1-methyl-1,2-ethanediyl)bis[oxymethyl-2,1-ethanediyl] diacrylate 42978-66-5	sensitising	Mouse local lymphnode assay (LLNA)	mouse	not specified
Butyl hydroxytoluene 128-37-0	not sensitising	Draize Test	guinea pig	Draize Test
methacrylic acid 79-41-4	not sensitising	Buehler test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
Ethylene dimethacrylate 97-90-5	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)
Isobornyl methacrylate 7534-94-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Isobornyl methacrylate 7534-94-3	negative		with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Isobornyl methacrylate 7534-94-3	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Triacrylate ester 52408-84-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Triacrylate ester 52408-84-1	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Triacrylate ester 52408-84-1	positive	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	negative	bacterial reverse mutation assay (e.g Ames test)	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
methacrylic acid 79-41-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Ethylene dimethacrylate 97-90-5	positive		without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration 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)
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	negative	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Butyl hydroxytoluene 128-37-0	negative	oral: feed		rat	not specified
methacrylic acid	negative	inhalation		mouse	equivalent or similar to OECD

79-41-4					Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)
methacrylic acid 79-41-4	negative	oral: gavage		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Ethylene dimethacrylate 97-90-5	negative	oral: unspecified		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

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	
methacrylic acid 79-41-4	not carcinogenic	inhalation	2 y	mouse	male/female	OECD Guideline 451 (Carcinogenicity Studies)
Ethylene dimethacrylate 97-90-5		inhalation	2 years 6 hours/day, 5 days/week	rat	male/female	OECD Guideline 451 (Carcinogenicity Studies)

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)
Isobornyl methacrylate 7534-94-3	NOAEL P 25 mg/kg NOAEL F1 500 mg/kg		oral: gavage	rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
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)
(1-methyl-1,2- ethanediyl)bis[oxy(methyl -2,1-ethanediyl)] diacrylate 42978-66-5	NOAEL P 250 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
methacrylic acid 79-41-4	NOAEL P 50 mg/kg NOAEL F1 400 mg/kg NOAEL F2 400 mg/kg	Two generation study	oral: gavage	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
Ethylene dimethacrylate 97-90-5	NOAEL P \geq 1.000 mg/kg NOAEL F1 \geq 1.000 mg/kg		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
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)
(1-methyl-1,2- ethanediyl)bis[oxy(methyl -2,1-ethanediyl)] diacrylate 42978-66-5	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
methacrylic acid 79-41-4		inhalation	90 d 6 h/d, 5 d/w	rat	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
Ethylene dimethacrylate 97-90-5	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
2-Hydroxyethyl methacrylate 868-77-9	LC50	> 100 mg/l	96 h	Oryzias latipes	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)
Isobornyl methacrylate 7534-94-3	LC50	1,79 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	LC50	1,89 mg/l	96 h	Danio 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)
Mixture of less 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone and 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone 163702-01-0	LC50	Toxicity > Water solubility	95 h	Oncorhynchus mykiss	EU Method C.1 (Acute Toxicity for Fish)
(1-methyl-1,2-ethanediy)bis[oxo(methyl-2,1-ethanediy)] diacrylate 42978-66-5	LC50	> 4,5 - 10 mg/l	96 h	Leuciscus idus	DIN 38412-15
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 life stage toxicity test)
methacrylic acid 79-41-4	LC50	85 mg/l	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	EPA OTS 797.1400 (Fish Acute Toxicity Test)
Ethylene dimethacrylate 97-90-5	LC50	15,95 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
2-Hydroxyethyl methacrylate 868-77-9	EC50	380 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)
Isobornyl methacrylate 7534-94-3	EC50	> 2,57 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	EC50	2,26 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Triacrylate ester	EC50	91,4 mg/l	48 h	Daphnia magna	OECD Guideline 202

52408-84-1					(Daphnia sp. Acute Immobilisation Test)
Mixture of less 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone and 3-(4-(2-Hydroxy-2-methyl-1,3-dioxol-5-yl)-2-methyl-1,3-dioxol-5-yl) 2-hydroxyprop-2-yl ketone 163702-01-0	EC50	Toxicity > Water solubility	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 42978-66-5	EC50	88,7 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)
methacrylic acid 79-41-4	EC50	> 130 mg/l	48 h	Daphnia magna	EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)
Ethylene dimethacrylate 97-90-5	EC50	44,9 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)
Isobornyl methacrylate 7534-94-3	NOEC	0,233 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)
Ethylene dimethacrylate 97-90-5	NOEC	5,05 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
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)
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)
Isobornyl methacrylate 7534-94-3	EC50	2,66 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Isobornyl methacrylate 7534-94-3	NOEC	0,254 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethyl phenyl(2,4,6- trimethylbenzoyl)phosphinate 84434-11-7	EC50	1,01 mg/l	72 h	Desmodesmus subspicatus	not specified
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)
Mixture of less 3-(4-(2- Hydroxy-2- methylpropionyl)phenyl)- 1,1,3-trimethylindan-6-yl 2- hydroxyprop-2yl ketone and 3-(4-(2-Hydroxy-2-m 163702-01-0	EC50	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Mixture of less 3-(4-(2- Hydroxy-2- methylpropionyl)phenyl)- 1,1,3-trimethylindan-6-yl 2- hydroxyprop-2yl ketone and 3-(4-(2-Hydroxy-2-m 163702-01-0	EC10	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
(1-methyl-1,2- ethanediyl)bis[oxy(methyl- 2,1-ethanediyl)] diacrylate 42978-66-5	EC50	28 mg/l	72 h	Scenedesmus subspicatus (new name: 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)
methacrylic acid 79-41-4	NOEC	8,2 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
methacrylic acid 79-41-4	EC50	45 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethylene dimethacrylate 97-90-5	EC50	17,3 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethylene dimethacrylate 97-90-5	EC10	6,93 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
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)
Mixture of less 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone and 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone	IC50	Toxicity > Water solubility	3 h	not specified	EU Method C.11 (Biodegradation: Activated Sludge Respiration Inhibition Test)
(1-methyl-1,2-ethanediyl)bis[oxymethyl-2,1-ethanediyl] diacrylate	EC 50	> 10.000 mg/l	30 min		not specified
Butyl hydroxytoluene	EC50	Toxicity > Water solubility	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
methacrylic acid	EC10	100 mg/l	17 h		not specified
Ethylene dimethacrylate	EC50	570 mg/l	3 h	activated sludge of a predominantly domestic sewage	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)

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
2-Hydroxyethyl methacrylate 868-77-9	readily biodegradable	aerobic	92 - 100 %	14 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
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)
Isobornyl methacrylate 7534-94-3	readily biodegradable	aerobic	70 %	28 d	OECD Guideline 310 (Ready Biodegradability CO2 in Sealed Vessels (Headspace Test))
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7		aerobic	< 10 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry 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))
Triacrylate ester 52408-84-1	readily biodegradable	aerobic	72 - 85 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Mixture of less 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone and 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone 163702-01-0	not readily biodegradable.	not specified	1,8 %	28 day	Directive 84/449/EEC, C.7
(1-methyl-1,2-ethanediy)bis[oxy(methyl-2,1-ethanediy)] diacrylate 42978-66-5	not readily biodegradable.	aerobic	48 %	28 d	EU Method C.4-C (Determination of the "Ready" Biodegradability Carbon Dioxide 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))
methacrylic acid 79-41-4	inherently biodegradable	aerobic	100 %	14 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
methacrylic acid 79-41-4	readily biodegradable	aerobic	86 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Ethylene dimethacrylate 97-90-5	not readily biodegradable.	aerobic	69 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry 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
Isobornyl methacrylate 7534-94-3	37	56 day	24 °C	Danio rerio	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
Butyl hydroxytoluene 128-37-0	330 - 1.800	56 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)

12.4. Mobility in soil

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

Hazardous substances CAS-No.	LogPow	Temperature	Method
2-Hydroxyethyl methacrylate 868-77-9	0,42	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazaheptadecane-1,16-diyl bismethacrylate 72869-86-4	3,39	20 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Isobornyl methacrylate 7534-94-3	5,09		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	2,91	25 °C	EU Method A.8 (Partition Coefficient)
Mixture of less 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone and 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone 163702-01-0	4,53		EU Method A.8 (Partition Coefficient)
(1-methyl-1,2-ethanediyl)bis[oxymethyl-2,1-ethanediyl] diacrylate 42978-66-5	< 4		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)
methacrylic acid 79-41-4	0,93	22 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Ethylene dimethacrylate 97-90-5	2,4		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
2-Hydroxyethyl methacrylate 868-77-9	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-diazaheptadecane-1,16-diyl bismethacrylate 72869-86-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Isobornyl methacrylate 7534-94-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate 84434-11-7	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.
Mixture of less 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone and 3-(4-(2-Hydroxy-2-methylpropionyl)phenyl)-1,1,3-trimethylindan-6-yl 2-hydroxyprop-2-yl ketone 163702-01-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
(1-methyl-1,2-ethanediyl)bis[oxymethyl-2,1-ethanediyl] diacrylate 42978-66-5	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.
methacrylic acid 79-41-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Ethylene dimethacrylate 97-90-5	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

< 3 %

(2010/75/EC)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

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

H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
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.
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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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>