

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

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SDS No.: 173124

V012.0 Revision: 12.06.2024

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Replaces version from: 11.12.2023

LOCTITE AA 317

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

1.1. Product identifier

LOCTITE AA 317

UFI: 1H63-D0JT-3004-C1CV

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

Intended use:

Adhesive

1.3. Details of the supplier of the safety data sheet

Henkel 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 www.mysds.henkel.com 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 damage Category 1

H318 Causes serious eye damage.

Skin sensitizer Category 1

H317 May cause an allergic skin reaction.

Specific target organ toxicity - single exposure Category 3

H335 May cause respiratory irritation.

Target organ: respiratory tract irritation

Chronic hazards to the aquatic environment Category 3

H412 Harmful to aquatic life with long lasting effects.

2.2. Label elements

Label elements (CLP):

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Hazard pictogram:



Contains Hydroxypropyl methacrylate

Acrylic acid

2,2'-Ethylenedioxydiethyl dimethacrylate

2-Hydroxyethyl methacrylate

Signal word: Danger

Hazard statement: H318 Causes serious eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction. H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statement: "***For consumer use only: P101 If medical advice is needed, have product

container or label at hand. P102 Keep out of reach of children. P501 Dispose of

contents/container in accordance with national regulation.***

Precautionary statement: P261 Avoid breathing vapors.

Prevention P273 Avoid release to the environment.

P280 Wear protective gloves/eye protection.

Precautionary statement:

Response

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing. P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

None if used properly.

Classified as Skin irritation Category 2, H315 based on Expert Judgement and experimental data of an OECD 431 test or based on analogy to similar products tested.

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

This mixture does not contain any substances in a concentration \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

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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
Hydroxypropyl methacrylate 27813-02-1 248-666-3 01-2119490226-37	25- 50 %	Skin Sens. 1, H317 Eye Irrit. 2, H319		
Acrylic acid 79-10-7 201-177-9 01-2119452449-31	5-< 10 %	Acute Tox. 4, Dermal, H312 Skin Corr. 1A, H314 Flam. Liq. 3, H226 Acute Tox. 4, Oral, H302 Acute Tox. 4, Inhalation, H332 Aquatic Acute 1, H400 Aquatic Chronic 2, H411 STOT SE 3, H335 Eye Dam. 1, H318	STOT SE 3; H335; C >= 1 % ===== M acute = 1 ===== dermal:ATE = 1.100 mg/kg inhalation:ATE = 11 mg/l;vapour	EU OEL
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 203-652-6 01-2119969287-21	1-< 5%	Skin Sens. 1B, H317	dermal:ATE = > 5.000 mg/kg inhalation:ATE = 28,17 mg/l;dust/mist	
Cumene hydroperoxide 80-15-9 201-254-7 01-2119475796-19	1-< 3%	STOT RE 2, H373 Skin Corr. 1B, H314 Acute Tox. 2, Inhalation, H330 Aquatic Chronic 2, H411 Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Org. Perox. E, H242 STOT SE 3, H335	Eye Irrit. 2; H319; C 1 - < 3 % Skin Irrit. 2; H315; C 3 - < 10 % Eye Dam. 1; H318; C 3 - < 10 % STOT SE 3; H335; C >= 1 % Skin Corr. 1B; H314; C >= 10 % ===== dermal:ATE = 1.100 mg/kg	
methacrylic acid 79-41-4 201-204-4 01-2119463884-26	1-< 3%	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 = 3,19 mg/l;dust/mist	
Tributyl amine 102-82-9 203-058-7 01-2119474898-14	0,1-< 1 %	Acute Tox. 4, Oral, H302 Acute Tox. 2, Dermal, H310 Skin Irrit. 2, H315 Acute Tox. 1, Inhalation, H330		
2-Hydroxyethyl methacrylate 868-77-9 212-782-2 01-2119490169-29	0,1-< 1 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319		
p-benzoquinone 106-51-4 203-405-2 01-2119933861-35	0,01-< 0,1 %	STOT SE 3, H335 Eye Irrit. 2, H319 Acute Tox. 3, Oral, H301 Acute Tox. 3, Inhalation, H331 Aquatic Acute 1, H400 Skin Irrit. 2, H315 Flam. Sol. 1, H228	M acute = 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

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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.

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

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

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

water, carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

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

Additional information:

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

SECTION 6: Accidental release measures

${\bf 6.1. \, Personal \, precautions, \, protective \, equipment \, and \, emergency \, procedures}$

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

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid skin and eye contact. See advice in section 8

Hygiene measures:

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

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction. Refer to Technical Data Sheet.

7.3. Specific end use(s)

Adhesive

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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
Acrylic acid 79-10-7 [ACRYLIC ACID (PROP-2-ENOIC ACID)]	10	29	Time Weighted Average (TWA):	Indicative	ECTLV
Acrylic acid 79-10-7 [ACRYLIC ACID (PROP-2-ENOIC ACID)]	20	59	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Acrylic acid 79-10-7 [ACRYLIC ACID]	10	29	Time Weighted Average (TWA):		EH40 WEL
Acrylic acid 79-10-7 [Acrylic acid]	20	59	Short Term Exposure Limit (STEL):	1 minute	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
Acrylic acid 79-10-7 [ACRYLIC ACID (PROP-2-ENOIC ACID)]	10	29	Time Weighted Average (TWA):	Indicative	ECTLV
Acrylic acid 79-10-7 [ACRYLIC ACID (PROP-2-ENOIC ACID)]	20	59	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Acrylic acid 79-10-7 [ACRYLIC ACID]	20	59	Short Term Exposure Limit (STEL):	1 minute Indicative OELV	IR_OEL
Acrylic acid 79-10-7 [ACRYLIC ACID]	10	29	Time Weighted Average (TWA):	Indicative OELV	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
p-Benzoquinone 106-51-4 [QUINONE]	0,1	0,4	Time Weighted Average (TWA):		IR_OEL

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Predicted No-Effect Concentration (PNEC):

Name on list	Environmental	Exposure period	Value				Remarks
	Compartment	perioa	mg/l	ppm	mg/kg	others	
Methacrylic acid, monoester with propane-	aqua		0,904 mg/l	PPIII	mg/mg	others	
1,2-diol 27813-02-1	(freshwater)						
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	aqua (marine water)		0,904 mg/l				
Methacrylic acid, monoester with propane-	sewage		10 mg/l				
1,2-diol 27813-02-1	treatment plant (STP)		To mg/T				
Methacrylic acid, monoester with propane- 1,2-diol	aqua (intermittent		0,972 mg/l				
27813-02-1	releases)						
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	sediment (freshwater)				6,28 mg/kg		
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	sediment (marine water)				6,28 mg/kg		
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	Soil				0,727 mg/kg		
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	Marine water - intermittent		0,972 mg/l				
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	Air						no hazard identified
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	Predator						no potential for bioaccumulation
Acrylic acid 79-10-7	aqua (freshwater)		0,003 mg/l				
Acrylic acid	aqua (marine		0,0003				
79-10-7	water)		mg/l				
Acrylic acid 79-10-7	sewage treatment plant (STP)		0,9 mg/l				
Acrylic acid	sediment				0,0236		
79-10-7 Acrylic acid	(freshwater)				mg/kg		
79-10-7	sediment (marine water)				0,00236 mg/kg		
Acrylic acid 79-10-7	Soil				1 mg/kg		
Acrylic acid 79-10-7	oral				0,03 g/kg		
Acrylic acid 79-10-7	Air						no hazard identified
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	aqua (freshwater)		0,164 mg/l				
2,2'-Ethylenedioxydiethyl dimethacrylate	aqua (marine		0,0164				
109-16-0 2,2'-Ethylenedioxydiethyl dimethacrylate	water) sewage		mg/l 10 mg/l				
109-16-0	treatment plant (STP)		To mg/T				
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	aqua (intermittent releases)		0,164 mg/l				
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	sediment (freshwater)				1,85 mg/kg		
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	sediment (marine water)				0,185 mg/kg		
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Soil				0,274 mg/kg		
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Air						no hazard identified
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Predator						no potential for bioaccumulation

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.alpha.,.alphaDimethylbenzyl	aqua	0,0031		
hydroperoxide	(freshwater)	mg/l		
80-15-9		0.004		
.alpha.,.alphaDimethylbenzyl hydroperoxide	aqua (intermittent	0,031 mg/l		
80-15-9	releases)			
.alpha.,.alphaDimethylbenzyl	aqua (marine	0,00031		
hydroperoxide	water)	mg/l		
80-15-9				
.alpha.,.alphaDimethylbenzyl	sewage	0,35 mg/l		
hydroperoxide	treatment plant			
80-15-9	(STP)			
.alpha.,.alphaDimethylbenzyl	sediment		0,023	
hydroperoxide	(freshwater)		mg/kg	
80-15-9				
.alpha.,.alphaDimethylbenzyl	sediment		0,0023	
hydroperoxide 80-15-9	(marine water)		mg/kg	
.alpha.,.alphaDimethylbenzyl	Soil		0,0029	
hydroperoxide	5011		mg/kg	
80-15-9			mg/mg	
methacrylic acid	aqua	0,82 mg/l		
79-41-4	(freshwater)			
methacrylic acid	Freshwater -	0,45 mg/l		
79-41-4	intermittent			
methacrylic acid	aqua (marine	0,082 mg/l		
79-41-4	water)	100 4		
methacrylic acid 79-41-4	sewage	100 mg/l		
/9-41-4	treatment plant (STP)			
methacrylic acid	sediment		3,09 mg/kg	
79-41-4	(freshwater)		5,00 mg/ng	
methacrylic acid	sediment		0,309	
79-41-4	(marine water)		mg/kg	
methacrylic acid	Soil		0,137	
79-41-4			mg/kg	
methacrylic acid	Predator			no potential for
79-41-4		0.000 //		no potential for bioaccumulation
79-41-4 Tributyl amine	aqua	0,008 mg/l		
79-41-4 Tributyl amine 102-82-9	aqua (freshwater)			
79-41-4 Tributyl amine	aqua	0,008 mg/l 0,0008 mg/l		
79-41-4 Tributyl amine 102-82-9 Tributyl amine	aqua (freshwater) aqua (marine	0,0008 mg/l		
79-41-4 Tributyl amine 102-82-9 Tributyl amine 102-82-9	aqua (freshwater) aqua (marine water)	0,0008		
79-41-4 Tributyl amine 102-82-9 Tributyl amine 102-82-9 Tributyl amine 102-82-9	aqua (freshwater) aqua (marine water) aqua	0,0008 mg/l 0,08 mg/l		
79-41-4 Tributyl amine 102-82-9 Tributyl amine 102-82-9 Tributyl amine 102-82-9 Tributyl amine 102-82-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage	0,0008 mg/l		
79-41-4 Tributyl amine 102-82-9 Tributyl amine 102-82-9 Tributyl amine 102-82-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant	0,0008 mg/l 0,08 mg/l		
79-41-4 Tributyl amine 102-82-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP)	0,0008 mg/l 0,08 mg/l		
79-41-4 Tributyl amine 102-82-9 Tributyl amine	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment	0,0008 mg/l 0,08 mg/l	35,85 mg/rg	
79-41-4 Tributyl amine 102-82-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater)	0,0008 mg/l 0,08 mg/l	mg/kg	
79-41-4 Tributyl amine 102-82-9 Tributyl amine	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment	0,0008 mg/l 0,08 mg/l		
79-41-4 Tributyl amine 102-82-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater)	0,0008 mg/l 0,08 mg/l	mg/kg 3,59 mg/kg	
79-41-4 Tributyl amine 102-82-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water)	0,0008 mg/l 0,08 mg/l 100 mg/l	mg/kg	
79-41-4 Tributyl amine 102-82-9 Tributyl amine	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua	0,0008 mg/l 0,08 mg/l	mg/kg 3,59 mg/kg	
79-41-4 Tributyl amine 102-82-9 Tributyl amine 102-87-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater)	0,0008 mg/l 0,08 mg/l 100 mg/l	mg/kg 3,59 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine	0,0008 mg/l 0,08 mg/l 100 mg/l	mg/kg 3,59 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water)	0,0008 mg/l 0,08 mg/l 100 mg/l 0,482 mg/l	mg/kg 3,59 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage	0,0008 mg/l 0,08 mg/l 100 mg/l	mg/kg 3,59 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage	0,0008 mg/l 0,08 mg/l 100 mg/l 0,482 mg/l	mg/kg 3,59 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage treatment plant (STP)	0,0008 mg/l 0,08 mg/l 100 mg/l 100 mg/l 0,482 mg/l 0,482 mg/l 10 mg/l	mg/kg 3,59 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage	0,0008 mg/l 0,08 mg/l 100 mg/l 0,482 mg/l	mg/kg 3,59 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage treatment plant (sTP) aqua (intermittent releases)	0,0008 mg/l 0,08 mg/l 100 mg/l 100 mg/l 0,482 mg/l 0,482 mg/l 10 mg/l	mg/kg 3,59 mg/kg 7,17 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate 868-77-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage treatment plant (STP) aqua (intermittent releases) sediment	0,0008 mg/l 0,08 mg/l 100 mg/l 100 mg/l 0,482 mg/l 0,482 mg/l 10 mg/l	mg/kg 3,59 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage treatment plant (STP) aqua (intermittent releases) sediment (STP) aqua (freshwater)	0,0008 mg/l 0,08 mg/l 100 mg/l 100 mg/l 0,482 mg/l 0,482 mg/l 10 mg/l	mg/kg 3,59 mg/kg 7,17 mg/kg 3,79 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage treatment plant (STP) sediment (marine water) soil	0,0008 mg/l 0,08 mg/l 100 mg/l 100 mg/l 0,482 mg/l 0,482 mg/l 10 mg/l	mg/kg 3,59 mg/kg 7,17 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage treatment plant (STP) sediment (marine water) soil aqua (freshwater) aqua (intermittent releases) sediment (freshwater) sediment (freshwater)	0,0008 mg/l 0,08 mg/l 100 mg/l 100 mg/l 0,482 mg/l 0,482 mg/l 10 mg/l	mg/kg 3,59 mg/kg 7,17 mg/kg 3,79 mg/kg 3,79 mg/kg 3,79 mg/kg	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage treatment plant (STP) sediment (marine water) soil	0,0008 mg/l 0,08 mg/l 100 mg/l 100 mg/l 0,482 mg/l 0,482 mg/l 10 mg/l	3,59 mg/kg 7,17 mg/kg 7,17 mg/kg 3,79 mg/kg 3,79 mg/kg 0,476	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage treatment plant (STP) sediment (marine water) soil aqua (freshwater) aqua (intermittent releases) sediment (freshwater) sediment (freshwater)	0,0008 mg/l 0,08 mg/l 100 mg/l 100 mg/l 0,482 mg/l 0,482 mg/l 10 mg/l	mg/kg 3,59 mg/kg 7,17 mg/kg 3,79 mg/kg 3,79 mg/kg 3,79 mg/kg	bioaccumulation
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage treatment plant (STP) aqua (intermittent releases) sediment (STP) aqua (intermittent releases) sediment (freshwater) sediment (freshwater)	0,0008 mg/l 0,08 mg/l 100 mg/l 100 mg/l 0,482 mg/l 0,482 mg/l 10 mg/l	3,59 mg/kg 7,17 mg/kg 7,17 mg/kg 3,79 mg/kg 3,79 mg/kg 0,476	
79-41-4 Tributyl amine 102-82-9 2-Hydroxyethyl methacrylate 868-77-9 2-Hydroxyethyl methacrylate	aqua (freshwater) aqua (marine water) aqua (intermittent releases) sewage treatment plant (STP) sediment (freshwater) sediment (marine water) Soil aqua (freshwater) aqua (marine water) sewage treatment plant (STP) aqua (intermittent releases) sediment (STP) aqua (intermittent releases) sediment (freshwater) sediment (freshwater)	0,0008 mg/l 0,08 mg/l 100 mg/l 100 mg/l 0,482 mg/l 0,482 mg/l 10 mg/l	3,59 mg/kg 7,17 mg/kg 7,17 mg/kg 3,79 mg/kg 3,79 mg/kg 0,476	no potential for

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868-77-9	intermittent			

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Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	Workers	dermal	Long term exposure - systemic effects		4,2 mg/kg	no hazard identified
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	Workers	Inhalation	Long term exposure - systemic effects		14,7 mg/m3	no hazard identified
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	General population	dermal	Long term exposure - systemic effects		2,5 mg/kg	no hazard identified
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	General population	Inhalation	Long term exposure - systemic effects		8,8 mg/m3	no hazard identified
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	General population	oral	Long term exposure - systemic effects		2,5 mg/kg	no hazard identified
Acrylic acid 79-10-7	Workers	inhalation	Long term exposure - local effects		30 mg/m3	no hazard identified
Acrylic acid 79-10-7	Workers	inhalation	Acute/short term exposure - local effects		30 mg/m3	no hazard identified
Acrylic acid 79-10-7	Workers	dermal	Acute/short term exposure - local effects		1 mg/cm2	no hazard identified
Acrylic acid 79-10-7	General population	dermal	Acute/short term exposure - local effects		1 mg/cm2	no hazard identified
Acrylic acid 79-10-7	General population	inhalation	Acute/short term exposure - local effects		3,6 mg/m3	no hazard identified
Acrylic acid 79-10-7	General population	inhalation	Long term exposure - local effects		3,6 mg/m3	no hazard identified
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Workers	inhalation	Long term exposure - systemic effects		48,5 mg/m3	no hazard identified
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Workers	dermal	Long term exposure - systemic effects		13,9 mg/kg	no hazard identified
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	General population	inhalation	Long term exposure - systemic effects		14,5 mg/m3	no hazard identified
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	General population	dermal	Long term exposure - systemic effects		8,33 mg/kg	no hazard identified
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	General population	oral	Long term exposure - systemic effects		8,33 mg/kg	no hazard identified
.alpha.,.alphaDimethylbenzyl hydroperoxide 80-15-9	Workers	inhalation	Long term exposure - systemic effects		6 mg/m3	
methacrylic acid 79-41-4	Workers	Inhalation	Long term exposure - local effects		88 mg/m3	no potential for bioaccumulation
methacrylic acid 79-41-4	Workers	Inhalation	Long term exposure - systemic effects		29,6 mg/m3	no potential for bioaccumulation
methacrylic acid 79-41-4	Workers	dermal	Long term exposure - systemic effects		4,25 mg/kg	no potential for bioaccumulation
methacrylic acid 79-41-4	General population	Inhalation	Long term exposure - local effects		6,55 mg/m3	no potential for bioaccumulation
methacrylic acid 79-41-4	General population	Inhalation	Long term exposure - systemic effects		6,3 mg/m3	no potential for bioaccumulation
methacrylic acid 79-41-4	General population	dermal	Long term exposure -		2,55 mg/kg	no potential for bioaccumulation

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1	1		systemic effects	İ	1
Tributyl amine 102-82-9	Workers	inhalation	Long term exposure - systemic effects	15,2 mg/m3	
Tributyl amine 102-82-9	Workers	inhalation	Long term exposure - local effects	15,2 mg/m3	
Tributyl amine 102-82-9	Workers	inhalation	Acute/short term exposure - local effects	15,2 mg/m3	
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

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.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Delivery form liquic

Colour Light amber, Clear Odor mild, acrylic Physical state liquid

Melting point Not applicable, Product is a liquid

Solidification temperature < -25 °C (< -13 °F) Initial boiling point 149 °C (300.2 °F)

Flammability The product is not flammable.

Explosive limits Not applicable, The product is not flammable.

Flash point > 100 °C (> 212 °F)

Auto-ignition temperature Not applicable, The product is not flammable.

Decomposition temperature Not applicable, Substance/mixture is not self-reactive, no organic

peroxide and does not decompose under foreseen conditions of use

pH Not applicable, Product is non-soluble (in water).

Viscosity (kinematic) > 20,5 mm2/s

(40 °C (104 °F);)

Solubility (qualitative) Not miscible

(20 °C (68 °F); Solvent: Water)

Partition coefficient: n-octanol/water Not applicable

Mixture

Vapour pressure < 4 mbar

(20 °C (68 °F))

Density 1,1 g/cm3 None

(20 °C (68 °F))

Relative vapour density: >

(20 °C) Heavier than air
Particle characteristics Not applicable
Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with strong oxidants.

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.

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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
Hydroxypropyl methacrylate 27813-02-1	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Acrylic acid 79-10-7	LD50	1.500 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	LD50	10.837 mg/kg	rat	not specified
Cumene hydroperoxide 80-15-9	LD50	382 mg/kg	rat	other guideline:
methacrylic acid 79-41-4	LD50	1.320 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Tributyl amine 102-82-9	LD50	420 mg/kg	rat	not specified
2-Hydroxyethyl methacrylate 868-77-9	LD50	5.564 mg/kg	rat	FDA Guideline
p-benzoquinone 106-51-4	LD50	130 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	Value	Value	Species	Method
CAS-No.	type			
Hydroxypropyl methacrylate 27813-02-1	LD50	> 5.000 mg/kg	rabbit	not specified
Acrylic acid 79-10-7	Acute toxicity estimate (ATE)	1.100 mg/kg		Expert judgement
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Acute toxicity estimate (ATE)	> 5.000 mg/kg		Expert judgement
Cumene hydroperoxide 80-15-9	Acute toxicity estimate (ATE)	1.100 mg/kg		Expert judgement
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
Tributyl amine 102-82-9	LD50	195 mg/kg	rabbit	not specified
2-Hydroxyethyl methacrylate 868-77-9	LD50	> 5.000 mg/kg	rabbit	not specified
p-benzoquinone 106-51-4	LD50	> 2.000 mg/kg	rat	not specified

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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
Acrylic acid 79-10-7	LC0	5,1 mg/l	vapour	4 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
Acrylic acid 79-10-7	Acute toxicity estimate (ATE)	11 mg/l	vapour			Expert judgement
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Acute toxicity estimate (ATE)	28,17 mg/l	dust/mist			Expert judgement
Cumene hydroperoxide 80-15-9	LC50	1,370 mg/l	vapour	4 h	rat	not specified
methacrylic acid 79-41-4	LC50	3,19 - 6,5 mg/l	dust/mist	4 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
methacrylic acid 79-41-4	Acute toxicity estimate (ATE)	3,19 mg/l	dust/mist			Expert judgement
Tributyl amine 102-82-9	LC50	0,5 mg/l	vapour	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation:

Classified as Skin irritation Category 2, H315 based on Expert Judgement and experimental data of an OECD 431 test or based on analogy to similar products tested.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Hydroxypropyl methacrylate 27813-02-1	not irritating	24 h	rabbit	Draize Test
Acrylic acid 79-10-7	Sub-Category 1A (corrosive)	3 min	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	not irritating	24 h	rabbit	Draize Test
Cumene hydroperoxide 80-15-9	corrosive		rabbit	Draize Test
methacrylic acid 79-41-4	corrosive	3 min	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2-Hydroxyethyl methacrylate 868-77-9	slightly irritating	24 h	rabbit	Draize Test

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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
Hydroxypropyl methacrylate 27813-02-1	Category 2B (mildly irritating to eyes)		rabbit	Draize Test
Acrylic acid 79-10-7	Category 1 (irreversible effects on the eye)		rabbit	BASF Test
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
methacrylic acid 79-41-4	corrosive		rabbit	Draize Test
2-Hydroxyethyl methacrylate 868-77-9	Category 2B (mildly irritating to eyes)		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
Hydroxypropyl methacrylate 27813-02-1	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Hydroxypropyl methacrylate 27813-02-1	sensitising	Guinea pig maximisation test	guinea pig	not specified
Acrylic acid 79-10-7	not sensitising	Freund's complete adjuvant test	guinea pig	Klecak Method
Acrylic acid 79-10-7	not sensitising	Split adjuvant test	guinea pig	Maguire Method
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
methacrylic acid 79-41-4	not sensitising	Buehler test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
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

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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
Hydroxypropyl methacrylate 27813-02-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Hydroxypropyl methacrylate 27813-02-1	positive	in vitro mammalian chromosome aberration test	with and without		Chromosome Aberration Test
Hydroxypropyl methacrylate 27813-02-1	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Acrylic acid 79-10-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Acrylic acid 79-10-7	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Acrylic acid 79-10-7	negative	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	without		equivalent or similar to OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
Cumene hydroperoxide 80-15-9	positive	bacterial reverse mutation assay (e.g Ames test)	without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
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)
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)

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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
Hydroxypropyl methacrylate 27813-02-1	not carcinogenic	inhalation	2 y 6 h/d, 5 d/w	rat	male	equivalent or similar OECD Guideline 451 (Carcinogenicity Studies)
Acrylic acid 79-10-7	not carcinogenic	oral: drinking water	26 - 28 m continuously	rat	male/female	OECD Guideline 451 (Carcinogenicity Studies)
Acrylic acid 79-10-7	not carcinogenic	dermal	21 m 3 times/w	mouse	male/female	not specified
methacrylic acid 79-41-4	not carcinogenic	inhalation	2 y	mouse	male/female	OECD Guideline 451 (Carcinogenicity Studies)
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)

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
Hydroxypropyl methacrylate 27813-02-1	NOAEL P 300 mg/kg NOAEL F1 1.000 mg/kg	screening	oral: gavage	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Hydroxypropyl methacrylate 27813-02-1	NOAEL P 400 mg/kg NOAEL F1 400 mg/kg	two- generation study	oral: gavage	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
Acrylic acid 79-10-7	NOAEL P 83 mg/kg NOAEL F1 250 mg/kg	one- generation study	oral: drinking water	rat	equivalent or similar to OECD Guideline 415 (One- Generation Reproduction Toxicity Study)
Acrylic acid 79-10-7	NOAEL P 240 mg/kg NOAEL F1 53 mg/kg NOAEL F2 53 mg/kg	two- generation study	oral: drinking water	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	NOAEL P 1.000 mg/kg NOAEL F1 1.000 mg/kg		oral: gavage	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
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)
2-Hydroxyethyl methacrylate 868-77-9	NOAEL P >= 1.000 mg/kg NOAEL F1 >= 1.000 mg/kg	screening	oral: gavage	rat	equivalent or similar to OECD Guideline 422 (Combined Repeated Dose Toxicity Study)

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STOT-single exposure:

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

Hazardous substances CAS-No.	Assessment	Route of exposure	Target Organs	Remarks
Acrylic acid 79-10-7	May cause respiratory irritation.			
methacrylic acid 79-41-4	May cause respiratory irritation.			

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
Hydroxypropyl methacrylate 27813-02-1	NOAEL 300 mg/kg	oral: gavage	49 d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Hydroxypropyl methacrylate 27813-02-1	NOAEL 0,352 mg/l	inhalation	90 d 6 h/d, 5 d/w	rat	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
Acrylic acid 79-10-7	NOAEL 40 mg/kg	oral: drinking water	12 m daily	rat	equivalent or similar to OECD Guideline 452 (Chronic Toxicity Studies)
Acrylic acid 79-10-7	NOAEL 0,015 mg/l	inhalation: vapour	90 d 6 h/d, 5 d/w	mouse	equivalent or similar to OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	NOAEL 1.000 mg/kg	oral: gavage	daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Cumene hydroperoxide 80-15-9		inhalation: aerosol	6 h/d 5 d/w	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)
Tributyl amine 102-82-9	NOAEL 75 mg/kg	oral: gavage	13 weeks daily	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)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

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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	Value	Exposure time	Species	Method
Hydroxypropyl methacrylate 27813-02-1	LC50	493 mg/l	48 h	Leuciscus idus melanotus	DIN 38412-15
Acrylic acid 79-10-7	LC50	27 mg/l	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	EPA OTS 797.1400 (Fish Acute Toxicity Test)
Acrylic acid 79-10-7	NOEC	>= 10,1 mg/l	45 d	Oryzias latipes	OECD Guideline 210 (fish early lite stage toxicity test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	LC50	16,4 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Cumene hydroperoxide 80-15-9	LC50	3,9 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute 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)
methacrylic acid 79-41-4	NOEC	10 mg/l	35 d	Danio rerio	OECD Guideline 210 (fish early lite stage toxicity test)
Tributyl amine 102-82-9	LC50	60,2 mg/l	48 h	Leuciscus idus	DIN 38412-15
2-Hydroxyethyl methacrylate 868-77-9	LC50	> 100 mg/l	96 h	Oryzias latipes	OECD Guideline 203 (Fish, Acute Toxicity Test)
p-benzoquinone 106-51-4	LC50	0,04 - 0,125 mg/l	96 h	Oncorhynchus mykiss	not specified

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
Hydroxypropyl methacrylate 27813-02-1	EC50	> 143 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute
					Immobilisation Test)
Acrylic acid	EC50	95 mg/l	48 h	Daphnia magna	EPA OTS 797.1300
79-10-7					(Aquatic Invertebrate Acute
					Toxicity Test, Freshwater
					Daphnids)
Cumene hydroperoxide	EC50	18,84 mg/l	48 h	Daphnia magna	OECD Guideline 202
80-15-9					(Daphnia sp. Acute
					Immobilisation Test)
methacrylic acid	EC50	> 130 mg/l	48 h	Daphnia magna	EPA OTS 797.1300
79-41-4					(Aquatic Invertebrate Acute
					Toxicity Test, Freshwater
					Daphnids)
Tributyl amine	EC50	8 mg/l	48 h	Daphnia magna	OECD Guideline 202
102-82-9					(Daphnia sp. Acute
					Immobilisation Test)
2-Hydroxyethyl methacrylate	EC50	380 mg/l	48 h	Daphnia magna	OECD Guideline 202
868-77-9					(Daphnia sp. Acute
					Immobilisation Test)
p-benzoquinone	EC50	0,13 mg/l	48 h	Daphnia magna	OECD Guideline 202
106-51-4					(Daphnia sp. Acute
		1			Immobilisation Test)

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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
Hydroxypropyl methacrylate 27813-02-1	NOEC	45,2 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Acrylic acid 79-10-7	NOEC	19 mg/l	21 d	Daphnia magna	EPA OTS 797.1330 (Daphnid Chronic Toxicity Test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	NOEC	32 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
methacrylic acid 79-41-4	NOEC	53 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
2-Hydroxyethyl methacrylate 868-77-9	NOEC	24,1 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

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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
Hydroxypropyl methacrylate 27813-02-1	EC50	> 97,2 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydroxypropyl methacrylate 27813-02-1	NOEC	> 97,2 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Acrylic acid 79-10-7	EC10	0,03 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
Acrylic acid 79-10-7	EC50	0,13 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	EC50	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	NOEC	18,6 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cumene hydroperoxide 80-15-9	EC50	3,1 mg/l	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cumene hydroperoxide 80-15-9	NOEC	1 mg/l	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	OECD Guideline 201 (Alga, Growth 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)
Tributyl amine 102-82-9	EC10	1,378 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Tributyl amine 102-82-9	EC50	8,215 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	EC50	836 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	NOEC	400 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
p-benzoquinone 106-51-4	EC50	1,5 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity (microorganisms):

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

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

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type				
Hydroxypropyl methacrylate 27813-02-1	EC10	1.140 mg/l	16 h		not specified
Acrylic acid 79-10-7	EC20	900 mg/l	30 min	activated sludge, domestic	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)
Cumene hydroperoxide 80-15-9	EC10	70 mg/l	30 min	not specified	not specified
methacrylic acid 79-41-4	EC10	100 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
Tributyl amine 102-82-9	EC0	> 800 mg/l	3 h		OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

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2-Hydroxyethyl methacrylate 868-77-9	EC0	> 3.000 mg/l	16 h	Pseudomonas fluorescens	other guideline:
p-benzoquinone 106-51-4	EC0	< 1 mg/l	30 min		not specified

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
Hydroxypropyl methacrylate 27813-02-1	readily biodegradable	aerobic	94,2 %	28 d	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
Acrylic acid 79-10-7	inherently biodegradable	aerobic	100 %	28 d	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
Acrylic acid 79-10-7	readily biodegradable	aerobic	81 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	readily biodegradable	aerobic	85 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Cumene hydroperoxide 80-15-9	not readily biodegradable.	aerobic	3 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
methacrylic acid 79-41-4	readily biodegradable	aerobic	86 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
methacrylic acid 79-41-4	inherently biodegradable	aerobic	100 %	14 d	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
Tributyl amine 102-82-9		aerobic	< 10 %	15 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Tributyl amine 102-82-9	inherently biodegradable	aerobic	94 %	15 d	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
Tributyl amine 102-82-9	readily biodegradable	aerobic	80,3 %	29 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
2-Hydroxyethyl methacrylate 868-77-9	readily biodegradable	aerobic	92 - 100 %	14 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
p-benzoquinone 106-51-4	not readily biodegradable.	aerobic	23 - 61 %	19 d	EU Method C.4-B (Determination of the "Ready" BiodegradabilityModified OECD Screening 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
Acrylic acid 79-10-7	3,16				QSAR (Quantitative Structure Activity Relationship)
Cumene hydroperoxide 80-15-9	9,1			calculation	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

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12.4. Mobility in soil

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

Hazardous substances	LogPow	Temperature	Method
CAS-No.		_	
Hydroxypropyl methacrylate	0,97	20 °C	not specified
27813-02-1			
Acrylic acid	0,46	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake
79-10-7			Flask Method)
2,2'-Ethylenedioxydiethyl	2,3		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC
dimethacrylate			Method)
109-16-0			
Cumene hydroperoxide	1,6	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC
80-15-9			Method)
methacrylic acid	0,93	22 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake
79-41-4			Flask Method)
Tributyl amine	3,338	25 °C	OECD Guideline 123 (Partition Coefficient (1-Octanol / Water), Slow-
102-82-9			Stirring Method)
2-Hydroxyethyl methacrylate	0,42	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake
868-77-9			Flask Method)
p-benzoquinone	0,1 - 0,3	23 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake
106-51-4			Flask 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	PBT / vPvB
CAS-No.	
Hydroxypropyl methacrylate	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
27813-02-1	Bioaccumulative (vPvB) criteria.
Acrylic acid	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
79-10-7	Bioaccumulative (vPvB) criteria.
2,2'-Ethylenedioxydiethyl dimethacrylate	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
109-16-0	Bioaccumulative (vPvB) criteria.
Cumene hydroperoxide	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
80-15-9	Bioaccumulative (vPvB) criteria.
methacrylic acid	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
79-41-4	Bioaccumulative (vPvB) criteria.
Tributyl amine	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
102-82-9	Bioaccumulative (vPvB) criteria.
2-Hydroxyethyl methacrylate	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
868-77-9	Bioaccumulative (vPvB) criteria.
p-benzoquinone	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
106-51-4	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

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Product disposal:

Dispose of in accordance with local and national regulations.

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

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	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

14.2. UN proper shipping name

Not dangerous goods
Not dangerous goods

14.3. Transport hazard class(es)

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

14.4. Packing group

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.6. Special precautions for user

ADR not applicable

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RID not applicable
ADN not applicable
IMDG not applicable
IATA not applicable

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):

Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):

Not applicable Persistent organic pollutants (Regulation (EU) 2019/1021):

Not applicable

VOC content 5,1 %

(2010/75/EC)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

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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:

H226 Flammable liquid and vapour.

H228 Flammable solid.

H242 Heating may cause a fire.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H310 Fatal in contact with skin.

H311 Toxic in contact with skin.

H312 Harmful 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.

H330 Fatal if inhaled.

H331 Toxic if inhaled.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H411 Toxic 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 Substance listed in Annex II, Reg (EC) No. 2019/1148 EU EXPLD 2 SVHC: Substance of very high concern (REACH Candidate List)

Substance fulfilling persistent, bioaccumulative and toxic criteria PBT:

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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