

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

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LOCTITE 638 RETAIN CMPND 1LT

SDS No. : 450822 V005.1 Revision: 30.09.2015 printing date: 05.07.2016 Replaces version from: 06.03.2015

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

1.1. Product identifier

LOCTITE 638 RETAIN CMPND 1LT

Contains:

2-Hydroxyethyl methacrylate Acrylic acid Hydroxypropyl methacrylate Maleic acid 2,2'-Ethylenedioxydiethyl dimethacrylate Acetic acid, 2-phenylhydrazide

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 Wood Lane End HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 1442 278000 Fax-no.: +44 1442 278071

ua-productsafety.uk@uk.henkel.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 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.	
Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:	
Signal word:	Danger
Hazard statement:	 H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H335 May cause respiratory irritation. H412 Harmful to aquatic life with long lasting effects.
Precautionary statement:	***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 waste and residues in accordance with local authority requirements***
Precautionary statement: Prevention	P261 Avoid breathing vapours.P273 Avoid release to the environment.P280 Wear protective gloves/eye protection.
Precautionary statement: Response	P302+P352 IF ON SKIN: Wash with plenty of water. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

None if used properly.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description: Adhesive Base substances of preparation: Acrylate

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	231-927-0	10- 20 %	STOT SE 3 H335 Skin Irrit. 2 H315 Eye Irrit. 2 H319
2-Hydroxyethyl methacrylate 868-77-9	212-782-2 01-2119490169-29	10- 20 %	Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319
Acrylic acid 79-10-7	201-177-9 01-2119452449-31	1- < 5 %	Flam. Liq. 3 H226 Acute Tox. 4; Oral H302 Acute Tox. 4; Dermal H312 Skin Corr. 1A H314 Acute Tox. 4; Inhalation H332 STOT SE 3 H335 Aquatic Acute 1 H400 Aquatic Chronic 2 H411
Hydroxypropyl methacrylate 27813-02-1	248-666-3 01-2119490226-37	1-< 5%	Skin Sens. 1 H317 Eye Irrit. 2 H319
Cumene hydroperoxide 80-15-9	201-254-7	0,1- < 1 %	Acute Tox. 4; Dermal H312 STOT RE 2 H373 Acute Tox. 4; Oral H302 Org. Perox. E H242 Acute Tox. 3; Inhalation H331 Aquatic Chronic 2 H411 Skin Corr. 1B H314
Maleic acid 110-16-7	203-742-5 01-2119488705-25	0,1-< 1%	Acute Tox. 4; Oral H302 Acute Tox. 4; Dermal H312 Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319 STOT SE 3 H335
Acetic acid, 2-phenylhydrazide 114-83-0	204-055-3	0,1-< 1%	Acute Tox. 3; Oral H301 Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319

			STOT SE 3; Inhalation H335 Carc. 2 H351
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	203-652-6 01-2119969287-21	0,1-< 1 %	Skin Sens. 1B H317
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

For full text of the H - statements and other abbreviations see section 16 "Other information". Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation: Move to fresh air, consult doctor if complaint persists.

Skin contact: IF ON SKIN: Wash with plenty of soap and water. Seek medical advice.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Seek medical advice.

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 EYE: Irritation, conjunctivitis.

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

SKIN: Redness, inflammation.

SKIN: Rash, Urticaria.

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: Carbon dioxide, foam, powder

5.2. Special hazards arising from the substance or mixture In case of fire, keep containers cool with water spray. Oxides of carbon, oxides of nitrogen, irritating organic vapors. Sulphur oxides

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. Remove sources of ignition.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

For small spills wipe up with paper towel and place in container for disposal. For large spills absorb onto inert absorbent material and place in sealed container for disposal.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid skin and eye contact. See advice in section 8

Hygiene measures:

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

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction. Keep container tightly sealed. 18 °C - 25 °C

7.3. Specific end use(s) Adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for

Great Britain

Ingredient [Regulated substance]	ррт	mg/m ³		Short term exposure limit category / Remarks	Regulatory list
Methacrylic acid 79-41-4 [METHACRYLIC ACID]	40	143	Short Term Exposure Limit (STEL):		EH40 WEL
Methacrylic acid 79-41-4 [METHACRYLIC ACID]	20	72	Time Weighted Average (TWA):		EH40 WEL

Occupational Exposure Limits

Valid for

Ireland

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Acrylic acid 79-10-7 [ACRYLIC ACID]	2	6	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):		IR_OEL

Predicted No-Effect Concentration (PNEC):

newmg/hppmmg/hgothers686.7.9apaa (rhebware)apaa <br< th=""><th>Name on list</th><th>Environmental Compartment</th><th>Exposure period</th><th>Value</th><th></th><th></th><th>Remarks</th></br<>	Name on list	Environmental Compartment	Exposure period	Value			Remarks	
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1.2-diolwater)water)27813-02-1STP10 mg/LRethacrylic acid, monoester with propane- 1.2-diolaqua (intermittent releases)0,972 mg/L12.4-diolaqua (intermittent releases)0,972 mg/L12.4-diolsediment (freshwater)6.28 mg/kg12.4-diolsediment (marine water)6.28 mg/kg12.4-diolsediment (marine water)6.28 mg/kg12.4-diolsediment (marine water)6.28 mg/kg12.4-diolsediment (marine water)6.28 mg/kg12.4-diolsediment (marine water)0,727 mg/kg12.4-diolaqua (marine water)0,727 mg/kg12.4-diolaqua (intermittent releases)0,724 mg/L12.4-diolaqua (freshwater)0,744 mg/L110-16-7(freshwater)0,0624 mg/kg110-16-7STP3,33 mg/L110-16-7STP3,33 mg/L110-16-7(freshwater)0,0164 mg/L110-16-7(freshwater)0,0164 mg/L110-16-7aqua (freshwater)0,0164 mg/L110-16-7aqua (freshwater)0,0164 mg/L110-16-7aqua (freshwater)0,0164 mg/L110-16-7aqua (freshwater)0,0164 mg/L110-16-7aqua (marine (freshwater)0,0164 mg/L110-16-7aqua (marine (freshwater)0,0164 mg/L	27813-02-1	Ì,						
Methacrylic acid, monoester with propane- 1,2-diol STP 10 mg/L 1,2-diol aqua 0.972 mg/L Methacrylic acid, monoester with propane- 1,2-diol aqua 0.972 mg/L 72813-02-1 releases) 6.28 mg/kg Methacrylic acid, monoester with propane- 1,2-diol sediment (freshwater) 6.28 mg/kg 72813-02-1 sediment (marine water) 6.28 mg/kg Methacrylic acid, monoester with propane- 1,2-diol sediment (marine water) 6.28 mg/kg 72813-02-1 soil 0,727 mg/kg Methacrylic acid, monoester with propane- 1,2-diol soil 0,727 mg/kg 72813-02-1 aqua (intermittent releases) 0,074 mg/L Maleic acid aqua (intermittent releases) 0,0624 mg/kg 0,744 mg/L 110-16-7 freshwater) mg/kg 3,33 mg/L 10-16-7 STP 3,33 mg/L 2,2-Ethylenedioxydiethyl dimethacrylate 109-16-0 aqua (freshwater) 0,164 mg/L 109-16-0 water) water) 0,0164 mg/L 0,0164 mg/L	Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1						0,904 mg/L	
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1aqua (intermittent releases)0,972 mg/LMethacrylic acid, monoester with propane- 1,2-diol 27813-02-1sediment (freshwater)6,28 mg/kgMethacrylic acid, monoester with propane- 1,2-diol 27813-02-1sediment (marine water)6,28 mg/kgMethacrylic acid, monoester with propane- 1,2-diol 27813-02-1soil0,7727 mg/kgMethacrylic acid, monoester with propane- 1,2-diol 27813-02-1soil0,7727 mg/kgMethacrylic acid, monoester with propane- 1,2-diol 27813-02-1soil0,7747 mg/kgMaleic acid 110-16-7aqua (intermittent releases)0,074 mg/LMaleic acid 110-16-7aqua (intermittent releases)0,0624 mg/kgMaleic acid 110-16-7STP0,0624 mg/kgMaleic acid 110-16-7aqua (freshwater)0,164 mg/L10-16-7aqua (freshwater)0,0164 mg/L2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0aqua (marine water)0,0164 mg/L	Methacrylic acid, monoester with propane- 1,2-diol	STP					10 mg/L	
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Methacrylic acid, monoester with propane- 1.2-diol 27813-02-1sediment (marine water)6,28 mg/kgMethacrylic acid, monoester with propane- 	Methacrylic acid, monoester with propane- 1,2-diol					6,28 mg/kg		
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1soil0,727 mg/kg0,727 	Methacrylic acid, monoester with propane- 1,2-diol					6,28 mg/kg		
1,2-diolmg/kg27813-02-1aqua (freshwater)0,074 mg/LMaleic acid 110-16-7aqua (freshwater)0,074 mg/LMaleic acid 	27813-02-1 Methacrylic acid, monoester with propane-	soil				0,727		
110-16-7(freshwater)Image: Constraint of the section of the se	1,2-diol 27813-02-1					mg/kg		
110-16-7(intermittent releases)00Maleic acid 110-16-7sediment (freshwater)0,0624 mg/kgMaleic acid 110-16-7STP3,33 mg/LMaleic acid 110-16-7STP0,164 mg/L2,2'-Ethylenedioxydiethyl dimethacrylate 	Maleic acid 110-16-7						0,074 mg/L	
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110-16-7(freshwater)mg/kgMaleic acid 110-16-7STP3,33 mg/L2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0aqua (freshwater)0,164 mg/L2,2'-Ethylenedioxydiethyl dimethacrylate 		releases)				0.0024		
Maleic acid 110-16-7STP3,33 mg/L2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0aqua (freshwater)0,164 mg/L2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0aqua (marine water)0,0164 mg/L	Maleic acid 110-16-7							
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2.2'-Ethylenedioxydiethyl dimethacrylate aqua (marine water) 0,0164 mg/L	2,2'-Ethylenedioxydiethyl dimethacrylate						0,164 mg/L	
	2,2'-Ethylenedioxydiethyl dimethacrylate	aqua (marine					0,0164 mg/L	
2.2-Ethylenedioxydiethyl dimethacrylate STP 0 mg/L	109-16-0 2,2'-Ethylenedioxydiethyl dimethacrylate	water) STP					10 mg/L	

LOCTITE 638 RETAIN CMPND 1LT

109-16-0	1				
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		

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 bw/day	
2-Hydroxyethyl methacrylate 868-77-9	Workers	Inhalation	Long term exposure - systemic effects		4,9 mg/m3	
2-Hydroxyethyl methacrylate 868-77-9	general population	Dermal	Long term exposure - systemic effects		0,83 mg/kg bw/day	
2-Hydroxyethyl methacrylate 868-77-9	general population	Inhalation	Long term exposure - systemic effects		2,9 mg/m3	
2-Hydroxyethyl methacrylate 868-77-9	general population	oral	Long term exposure - systemic effects		0,83 mg/kg bw/day	
Acrylic acid 79-10-7	Workers	Inhalation	Long term exposure - local effects		30 mg/m3	
Acrylic acid 79-10-7	Workers	Inhalation	Acute/short term exposure - local effects		30 mg/m3	
Acrylic acid 79-10-7	Workers	Dermal	Acute/short term exposure - local effects		1 mg/cm2	
Acrylic acid 79-10-7	general population	Dermal	Acute/short term exposure - local effects		1 mg/cm2	
Acrylic acid 79-10-7	general population	inhalation	Acute/short term exposure - local effects		3,6 mg/m3	
Acrylic acid 79-10-7	general population	inhalation	Long term exposure - local effects		3,6 mg/m3	
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	Workers	Dermal	Long term exposure - systemic effects		4,2 mg/kg bw/day	
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	Workers	Inhalation	Long term exposure - systemic effects		14,7 mg/m3	
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	general population	Dermal	Long term exposure - systemic effects		2,5 mg/kg bw/day	
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	general population	Inhalation	Long term exposure - systemic effects		8,8 mg/m3	
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	general population	oral	Long term exposure - systemic effects		2,5 mg/kg bw/day	
Maleic acid 110-16-7	Workers	Dermal	Acute/short term exposure - local effects		0,55 mg/cm2	
Maleic acid 110-16-7	Workers	Dermal	Long term exposure - local effects		0,04 mg/cm2	
Maleic acid 110-16-7	Workers	Dermal	Acute/short term exposure - systemic effects		58 mg/kg bw/day	
Maleic acid 110-16-7	Workers	Dermal	Long term exposure - systemic effects		3,3 mg/kg bw/day	
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Workers	inhalation	Long term exposure - systemic effects		48,5 mg/m3	
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Workers	Dermal	Long term exposure - systemic effects		13,9 mg/kg bw/day	
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	general population	inhalation	Long term exposure - systemic effects		14,5 mg/m3	
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	general population	Dermal	Long term exposure -		8,33 mg/kg bw/day	

		1	systemic effects		
2,2'-Ethylenedioxydiethyl dimethacrylate	general	oral	Long term	8,33 mg/kg bw/day	
109-16-0	population		exposure -		
			systemic effects		

Biological Exposure Indices:

None

8.2. Exposure controls:

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

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.

Skin protection: Wear suitable protective clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

9.1. Information on basic physical and chemical p	opernes
Appearance	liquid
	green
Odor	characteristic
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
1	No data available / Not applicable
Initial boiling point	11
Flash point	93,3 °C (199.94 °F)
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density	1,1 g/cm3
0	
Bulk density	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative)	Insoluble
(Solvent: Water)	
Solubility (qualitative)	Miscible
(Solvent: Acetone)	
Solubility (qualitative)	Soluble
(Solvent: Acetone)	
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Auto-ignition temperature	no data avaliable / not applicable

Explosive limits Partition coefficient: n-octanol/water Evaporation rate Vapor density Oxidising properties

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Reaction with strong acids. Reacts with strong oxidants.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions See section reactivity

10.4. Conditions to avoid

Stable

10.5. Incompatible materials

See section reactivity

10.6. Hazardous decomposition products

None if used for intended purpose. In case of fire toxic gases can be released.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General toxicological information:

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

STOT-single exposure:

May cause respiratory irritation.

Oral toxicity: May cause irritation to the digestive tract.

Skin irritation: Causes skin irritation.

Eye irritation: Causes serious eye damage.

Sensitizing: May cause an allergic skin reaction.

No data available / Not applicable No data available / Not applicable

Hazardous components	Value	Value	Route of	Exposure	Species	Method
CAS-No.	type		application	time		
Acrylic acid	LD50	1.500 mg/kg	oral		rat	BASF Test
79-10-7						
Hydroxypropyl	LD50	> 2.000 mg/kg	oral		rat	OECD Guideline 401 (Acute
methacrylate						Oral Toxicity)
27813-02-1						-
Cumene hydroperoxide	LD50	550 mg/kg	oral		rat	
80-15-9						
Maleic acid	LD50	708 mg/kg	oral		rat	
110-16-7						
2,2'-Ethylenedioxydiethyl	LD50	10.837 mg/kg	oral		rat	
dimethacrylate						
109-16-0						
Methacrylic acid	LD50	1.320 mg/kg	oral		rat	OECD Guideline 401 (Acute
79-41-4						Oral Toxicity)

Acute inhalative toxicity:

Hazardous components	Value	Value	Route of	Exposure	Species	Method
CAS-No.	type		application	time		
Acrylic acid	LC50	> 5,1 mg/l	Vapor.	4 h	rat	OECD Guideline 403 (Acute
79-10-7		_	-			Inhalation Toxicity)
Acrylic acid	Acute	11 mg/l	vapour			Expert judgement
79-10-7	toxicity	-				
	estimate					
	(ATE)					
Methacrylic acid	LC50	4,7 mg/l	inhalation	4 h	rat	OECD Guideline 403 (Acute
79-41-4						Inhalation Toxicity)

Acute dermal toxicity:

Hazardous components	Value	Value	Route of	Exposure	Species	Method
CAS-No.	type		application	time	-	
2-Hydroxyethyl methacrylate 868-77-9	LD50	> 3.000 mg/kg	dermal		rabbit	
Acrylic acid 79-10-7	Acute toxicity estimate (ATE)	1.100 mg/kg	dermal			Expert judgement
Acrylic acid 79-10-7	LD50	> 2.000 mg/kg			rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Hydroxypropyl methacrylate 27813-02-1	LD50	> 5.000 mg/kg	dermal		rabbit	
Maleic acid 110-16-7	LD50	1.560 mg/kg	dermal		rabbit	
Methacrylic acid 79-41-4	Acute toxicity estimate (ATE)	500 mg/kg	dermal			Expert judgement
Methacrylic acid 79-41-4	LD50	500 - 1.000 mg/kg			rabbit	Dermal Toxicity Screening

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Acrylic acid 79-10-7	highly corrosive	3 min	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Cumene hydroperoxide 80-15-9	corrosive		rabbit	Draize Test
Methacrylic acid 79-41-4	Category 1A (corrosive)	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Hazardous components	Result	Exposure	Species	Method
CAS-No.		time		
Acrylic acid 79-10-7	corrosive	21 d	rabbit	BASF Test
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	slightly irritating	24 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Acrylic acid 79-10-7	not sensitising	Skin painting test	guinea pig	
Methacrylic acid 79-41-4	not sensitising	Buehler test	guinea pig	Buehler test

Germ cell mutagenicity:

Hazardous components 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)
	positive	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Acrylic acid 79-10-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		
Cumene hydroperoxide 80-15-9	positive	bacterial reverse mutation assay (e.g Ames test)	without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Cumene hydroperoxide 80-15-9	negative	dermal		mouse	

Repeated dose toxicity

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Cumene hydroperoxide 80-15-9		inhalation: aerosol	6 h/d5 d/w	rat	

SECTION 12: Ecological information

General ecological information:

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

12.1. Toxicity

Ecotoxicity:

Harmful to aquatic life with long lasting effects. Do not empty into drains / surface water / ground water.

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
2-Hydroxyethyl methacrylate 868-77-9	LC50	227 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute
2-Hydroxyethyl methacrylate 868-77-9	EC50	380 mg/l	Daphnia	48 h	Daphnia magna	Toxicity Test) OECD Guideline 202 (Daphnia sp. Acute
2-Hydroxyethyl methacrylate 868-77-9	EC50	345 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella	Immobilisation Test) OECD Guideline 201 (Alga, Growth
	NOEC	160 mg/l	Algae	72 h	subcapitata) Selenastrum capricornutum (new name: Pseudokirchnerella	Inhibition Test) OECD Guideline 201 (Alga, Growth
2-Hydroxyethyl methacrylate 868-77-9	EC0	> 3.000 mg/l	Bacteria	16 h	subcapitata)	Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	NOEC	24,1 mg/l	chronic Daphnia	21 d	Daphnia magna	OECD 211 (Daphnia magna,
Acrylic acid 79-10-7	LC50	27 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	Reproduction Test EPA OTS 797.1400 (Fish Acute Toxicity
Acrylic acid 79-10-7	EC10	0,03 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus	Test) OECD Guideline 201 (Alga, Growth Inhibition Test)
	EC50	0,13 mg/l	Algae	72 h	subspicatus) Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Acrylic acid 79-10-7	EC10	41 mg/l	Bacteria	16 h	subspicatus)	minomon rest)
Acrylic acid 79-10-7	NOEC	19 mg/l	chronic Daphnia	21 d	Daphnia magna	EPA OTS 797.1330 (Daphni Chronic Toxicity Test)
Hydroxypropyl methacrylate 27813-02-1	LC50	493 mg/l	Fish	48 h	Leuciscus idus melanotus	DIN 38412-15
Hydroxypropyl methacrylate 27813-02-1	EC50	> 130 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Hydroxypropyl methacrylate 27813-02-1	EC10	1.140 mg/l	Bacteria	16 h		Test)
Cumene hydroperoxide 80-15-9	LC50	3,9 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute
Cumene hydroperoxide 80-15-9	EC50	18 mg/l	Daphnia	48 h	Daphnia magna	Toxicity Test) OECD Guideline 202 (Daphnia sp. Acute
Cumene hydroperoxide 80-15-9	ErC50	3,1 mg/l	Algae	72 h	Pseudokirchnerella subcapitata	Immobilisation Test) OECD Guideline 201 (Alga, Growth Inhibition Test)
Cumene hydroperoxide 80-15-9	EC10	70 mg/l	Bacteria	30 min		minoriton rest)
Maleic acid 110-16-7	LC50	> 245 mg/l	Fish	48 h	Leuciscus idus	DIN 38412-15
Maleic acid 110-16-7	EC50	42,81 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation
2,2'-Ethylenedioxydiethyl dimethacrylate	LC50	16,4 mg/l	Fish	96 h		Test) OECD Guideline 203 (Fish, Acute
109-16-0 Methacrylic acid 79-41-4	LC50	85 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	Toxicity Test) EPA OTS 797.1400 (Fish Acute Toxicity Test)
Methacrylic acid 79-41-4	EC50	> 130 mg/l	Daphnia	48 h	Daphnia magna	EPA OTS 797.1300 (Aquation Invertebrate Acuton Toxicity Test,

						Freshwater Daphnids)
Methacrylic acid	NOEC	8,2 mg/l	Algae	72 h	Selenastrum capricornutum	OECD Guideline
79-41-4					(new name: Pseudokirchnerella	201 (Alga, Growth
					subcapitata)	Inhibition Test)
	EC50	45 mg/l	Algae	72 h	Selenastrum capricornutum	OECD Guideline
		-	-		(new name: Pseudokirchnerella	201 (Alga, Growth
					subcapitata)	Inhibition Test)
Methacrylic acid 79-41-4	EC10	100 mg/l	Bacteria	17 h		

12.2. Persistence and degradability

Persistence and Biodegradability: The product is not biodegradable.

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
2-Hydroxyethyl methacrylate 868-77-9	readily biodegradable	aerobic	92 - 100 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Acrylic acid 79-10-7	readily biodegradable	aerobic	81 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
	inherently biodegradable	aerobic	100 %	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
Hydroxypropyl methacrylate 27813-02-1	readily biodegradable	aerobic	94,2 %	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
Cumene hydroperoxide 80-15-9		no data	0 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Maleic acid 110-16-7	readily biodegradable	aerobic	97,08 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	readily biodegradable		85 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Methacrylic acid 79-41-4	inherently biodegradable	aerobic	100 %	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
	readily biodegradable	aerobic	86 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Mobility:

Cured adhesives are immobile.

Hazardous components CAS-No.LogKowBioconcentration factor (BCF)	n Exposure time	Species	Temperature	Method
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Acrylic acid 79-10-7 Acrylic acid 79-10-7	0,46	3,16		25 °C	OECD Guideline 107 (Partition Coefficient (n- octanol / water), Shake Flask Method)
Hydroxypropyl methacrylate 27813-02-1	0,97				
Cumene hydroperoxide 80-15-9 Cumene hydroperoxide	2,16	9,1	calculation		OECD Guideline 305 (Bioconcentration: Flow- through Fish Test)
80-15-9 Maleic acid 110-16-7	-1,3			20 °C	OECD Guideline 107 (Partition Coefficient (n- octanol / water), Shake Flask Method)
Acetic acid, 2- phenylhydrazide 114-83-0	0,74				
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	1,88				
Methacrylic acid 79-41-4	0,93			22 °C	OECD Guideline 107 (Partition Coefficient (n- octanol / water), Shake Flask Method)

12.5. Results of PBT and vPvB assessment

Hazardous components	PBT/vPvB
CAS-No.	
2-Hydroxyethyl methacrylate	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
868-77-9	Bioaccumulative (vPvB) criteria.
Acrylic acid	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
79-10-7	Bioaccumulative (vPvB) criteria.
Hydroxypropyl methacrylate	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
27813-02-1	Bioaccumulative (vPvB) criteria.
Maleic acid	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
110-16-7	Bioaccumulative (vPvB) criteria.
2,2'-Ethylenedioxydiethyl dimethacrylate	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
109-16-0	Bioaccumulative (vPvB) criteria.
Methacrylic acid	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
79-41-4	Bioaccumulative (vPvB) criteria.

12.6. 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 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. Transport in bulk according to Annex II of Marpol and the IBC Code not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture 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:
 - H226 Flammable liquid and vapor.
 - H242 Heating may cause a fire.
 - H301 Toxic if swallowed.
 - H302 Harmful if swallowed.
 - 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.
 - H319 Causes serious eye irritation.
 - H331 Toxic if inhaled.
 - H332 Harmful if inhaled.
 - H335 May cause respiratory irritation.
 - H351 Suspected of causing cancer.
 - 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.

Further information:

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

Label elements (DPD):

Xi - Irritant



Risk phrases:

R36/37/38 Irritating to eyes, respiratory system and skin. R43 May cause sensitisation by skin contact.

Safety phrases:

S24 Avoid contact with skin.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37 Wear suitable gloves.

Contains:

2-Hydroxyethyl methacrylate, Hydroxypropyl methacrylate, Maleic acid

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.