

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

Page 1 of 21

LOCTITE 511

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

1.1. Product identifier

LOCTITE 511

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
Fax-no.:	+44 (1442) 278071

ua-productsafety.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):

assineation (CEI):	
Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation.	
Target organ: respiratory tract irritation	
Chronic hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:	
Contains	2-Ethylhexyl methacrylate
	Cumene hydroperoxide
	Acetic acid, 2-phenylhydrazide Maleic acid
	N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)
	Methyl methacrylate
Signal word:	Warning
Hazard statement:	 H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. 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 vapors.P273 Avoid release to the environment.P280 Wear protective gloves.
Precautionary statement: Response	P302+P352 IF ON SKIN: Wash with plenty of soap and water. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

None if used properly. Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:

Anaerobic Sealant

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
2-Ethylhexyl methacrylate 688-84-6	211-708-6 01-2119490166-35	5- < 10 %	Skin Sens. 1B H317 STOT SE 3 H335 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Aquatic Chronic 3 H412
Decan-1-ol 112-30-1	203-956-9 01-2119480407-35	5- < 10 %	Eye Irrit. 2 H319 Aquatic Chronic 3 H412
Cumene hydroperoxide 80-15-9	201-254-7 01-2119475796-19	1-< 3%	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
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
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
N,N'-Ethane-1,2-diylbis(12- hydroxyoctadecan-1-amide) 123-26-2	204-613-6 01-2119978265-26	0,1-< 1%	Skin Sens. 1B H317 Aquatic Chronic 4 H413
Methyl methacrylate 80-62-6	201-297-1 01-2119452498-28	0,1-< 1%	Flam. Liq. 2 H225 STOT SE 3 H335 Skin Irrit. 2 H315 Skin Sens. 1 H317
1,4-Naphthalenedione 130-15-4	204-977-6	0,01-< 0,1 %	Acute Tox. 3; Oral H301 Skin Irrit. 2; Dermal H315 Skin Sens. 1; Dermal H317 Eye Irrit. 2 H319 Acute Tox. 1; Inhalation

H330
STOT SE 3; Inhalation
H335
Aquatic Acute 1
H400
Aquatic Chronic 1
H410
M factor (Acute Aquat Tox): 10 M factor
(Chron Aquat Tox): 10

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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

Skin contact: Rinse with running water and soap. Obtain medical attention if irritation persists.

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

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

4.2. Most important symptoms and effects, both acute and delayed SKIN: Redness, inflammation.

SKIN: Rash, Urticaria.

EYE: Irritation, conjunctivitis.

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

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

Extinguishing media which must not be used for safety reasons: None known

5.2. Special hazards arising from the substance or mixtureIn the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.5.3. Advice for firefightersWear 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

Ensure adequate ventilation. Avoid contact with skin and eyes. Wear protective equipment.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

For large spills absorb onto inert absorbent material and place in sealed container for disposal. For small spills wipe up with paper towel and place in container for disposal. Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Use only in well-ventilated areas. Avoid skin and eye contact. See advice in section 8

Hygiene measures:

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

7.2. Conditions for safe storage, including any incompatibilities

Refer to Technical Data Sheet Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

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]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Ethene, homopolymer 9002-88-4 [DUST, INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
Ethene, homopolymer 9002-88-4 [DUST, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		EH40 WEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		EH40 WEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, INHALABLE DUST]		6	Time Weighted Average (TWA):		EH40 WEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, INHALABLE DUST]		6	Time Weighted Average (TWA):		EH40 WEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		EH40 WEL
Methyl methacrylate 80-62-6 [METHYL METHACRYLATE]	100	416	Short Term Exposure Limit (STEL):		EH40 WEL
Methyl methacrylate 80-62-6 [METHYL METHACRYLATE]	50	208	Time Weighted Average (TWA):		EH40 WEL
Methyl methacrylate 80-62-6 [METHYL METHACRYLATE]	100		Short Term Exposure Limit (STEL):	Indicative	ECTLV
Methyl methacrylate 80-62-6 [METHYL METHACRYLATE]	50		Time Weighted Average (TWA):	Indicative	ECTLV

Occupational Exposure Limits

Valid for

Ireland

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Ethene, homopolymer 9002-88-4 [DUSTS, NON-SPECIFIC, RESPIRABLE]		4	Time Weighted Average (TWA):		IR_OEL
Ethene, homopolymer 9002-88-4 [DUSTS, NON-SPECIFIC, TOTAL INHALABLE]		10	Time Weighted Average (TWA):		IR_OEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, TOTAL INHALABLE DUST]		6	Time Weighted Average (TWA):		IR_OEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		IR_OEL
Silicon dioxide		6	Time Weighted Average		IR_OEL

112945-52-5 [SILICA, AMORPHOUS, TOTAL INHALABLE DUST]			(TWA):		
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		IR_OEL
Methyl methacrylate 80-62-6 [METHYL METHACRYLATE]	50		Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Methyl methacrylate 80-62-6 [METHYL METHACRYLATE]	100		Short Term Exposure Limit (STEL):	Indicative	ECTLV
Methyl methacrylate 80-62-6 [METHYL METHACRYLATE]	50		Time Weighted Average (TWA):	Indicative	ECTLV
Methyl methacrylate 80-62-6 [METHYL METHACRYLATE]	100		Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Ex Compartment pe	xposure eriod	Value	Value			Remarks
			mg/l	ppm	mg/kg	others	
Decan-1-ol	aqua		0,022 mg/l				
112-30-1	(freshwater)		_				
Decan-1-ol	sediment				0,13 mg/kg		
112-30-1	(freshwater)						
Decan-1-ol	aqua (marine		0,0022				
112-30-1	water)		mg/l				
Decan-1-ol	sediment				0,013		
112-30-1	(marine water)				mg/kg		
Decan-1-ol	Soil				0,13 mg/kg		
112-30-1							
Decan-1-ol	sewage		0,4 mg/l				
112-30-1	treatment plant (STP)						
.alpha.,.alphaDimethylbenzyl	aqua		0,0031				
hydroperoxide 80-15-9	(freshwater)		mg/l				
.alpha.,.alphaDimethylbenzyl	aqua (marine		0,00031				
hydroperoxide 80-15-9	water)		mg/l				
.alpha.,.alphaDimethylbenzyl	aqua		0,031 mg/l				
hydroperoxide 80-15-9	(intermittent releases)						
.alpha.,.alphaDimethylbenzyl	Sewage		0,35 mg/l				
hydroperoxide 80-15-9	treatment plant		0,00 mg 1				
.alpha.,.alphaDimethylbenzyl	sediment				0,023		
hydroperoxide	(freshwater)				mg/kg		
80-15-9	(inconverter)				ing ng		
.alpha.,.alphaDimethylbenzyl	sediment				0,0023		
hydroperoxide	(marine water)				mg/kg		
80-15-9	(marme water)				ing ng		
.alpha.,.alphaDimethylbenzyl	Soil				0,0029		
hydroperoxide					mg/kg		
80-15-9					00		
Maleic acid	aqua		0,1 mg/l				
110-16-7	(freshwater)						
Maleic acid	aqua		0,4281				
110-16-7	(intermittent		mg/l				
	releases)						
Maleic acid	sediment				0,334		
110-16-7	(freshwater)				mg/kg		
Maleic acid	sewage		44,6 mg/l				
110-16-7	treatment plant						
	(STP)						
Maleic acid	aqua (marine		0,01 mg/l				
110-16-7	water)						
Maleic acid	sediment				0,0334		
110-16-7	(marine water)				mg/kg		
Maleic acid	Soil				0,0415		
110-16-7			0.04 /		mg/kg		
Methyl methacrylate	aqua		0,94 mg/l				
80-62-6	(freshwater)		0.04 /				
Methyl methacrylate	aqua (marine		0,94 mg/l				
80-62-6 Methyl methacrylate	water)		0,94 mg/l				
80-62-6	aqua (intermittent		0,94 mg/1				
00-02-0	(intermittent releases)						
Methyl methacrylate	sewage		10 mg/l				
80-62-6	treatment plant		10 mg/1				
00 02-0	(STP)						
Methyl methacrylate	sediment		1	1	5,74 mg/kg		
80-62-6	(freshwater)				5,74 mg/kg		
Methyl methacrylate	Soil		1	ł	1,47 mg/kg		
80-62-6	2000		1	1	-, mg/ng	1	

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
2-Ethylhexyl methacrylate 688-84-6	worker	dermal	Long term exposure - systemic effects		5 mg/kg	
Decan-1-ol 112-30-1	Workers	inhalation	Long term exposure - systemic effects	Long term exposure -		
Decan-1-ol 112-30-1	Workers	inhalation	Long term exposure - local effects		129 mg/m3	
Decan-1-ol 112-30-1	Workers	dermal	Long term exposure - systemic effects		250 mg/kg	
Decan-1-ol 112-30-1	Workers	dermal	Long term exposure - local effects		0,19 mg/cm2 190 μg/cm2	
Decan-1-ol 112-30-1	General population	inhalation	Long term exposure - systemic effects		43,5 mg/m3	
Decan-1-ol 112-30-1	General population	dermal	Long term exposure - systemic effects		125 mg/kg	
Decan-1-ol 112-30-1	General population	dermal	Long term exposure - local effects		0,067 mg/cm2 67 μg/cm2	
Decan-1-ol 112-30-1	General population	oral	Long term exposure - systemic effects		12,5 mg/kg	
.alpha.,.alphaDimethylbenzyl hydroperoxide 80-15-9	Workers	inhalation	Long term exposure - systemic effects		6 mg/m3	
Maleic acid 110-16-7	Workers	dermal	Acute/short term exposure - local effects	posure - local 0.		
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	
Maleic acid 110-16-7	Workers	dermal	Long term exposure - systemic effects		3,3 mg/kg	
Maleic acid 110-16-7	Workers	inhalation	Acute/short term exposure - local effects		3 mg/m3	
Maleic acid 110-16-7	Workers	inhalation	Long term exposure - systemic effects		3 mg/m3	
Maleic acid 110-16-7	Workers	inhalation	Long term exposure - local effects		3 mg/m3	
Maleic acid 110-16-7	Workers	inhalation	Acute/short term exposure - systemic effects		3 mg/m3	
Methyl methacrylate 80-62-6	Workers	dermal	Acute/short term exposure - local effects		1,5 mg/cm2	
Methyl methacrylate 80-62-6	Workers	dermal	Long term exposure - systemic effects		13,67 mg/kg	
Methyl methacrylate 80-62-6	Workers	Inhalation	Long term exposure - systemic effects		208 mg/m3	
Methyl methacrylate 80-62-6	Workers	dermal	Long term exposure - local effects		1,5 mg/cm2	
Methyl methacrylate 80-62-6	Workers	Inhalation	Long term exposure - local effects		208 mg/m3	
Methyl methacrylate 80-62-6	General population	dermal	Acute/short term exposure - local		1,5 mg/cm2	

			effects	
Methyl methacrylate 80-62-6	General population	dermal	Long term exposure - systemic effects	8,2 mg/kg
Methyl methacrylate 80-62-6	General population	Inhalation	Long term exposure - systemic effects	74,3 mg/m3
Methyl methacrylate 80-62-6	General population	dermal	Long term exposure - local effects	1,5 mg/cm2
Methyl methacrylate 80-62-6	General population	Inhalation	Long term exposure - local effects	104 mg/m3

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls: Ensure good ventilation/extraction.

Respiratory protection: Ensure adequate ventilation. An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area Filter type: A (EN 14387)

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness)

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

nitrile rubber (NBR; >= 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection: Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing. Protective eye equipment should conform to EN166.

Skin protection: Wear suitable protective clothing. Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties Appearance paste

Odor Odour threshold paste white alcohol-like No data available / Not applicable

pН Not applicable Melting point No data available / Not applicable Solidification temperature No data available / Not applicable Initial boiling point Not determined Flash point > 100 °C (> 212 °F) Evaporation rate No data available / Not applicable Flammability No data available / Not applicable Explosive limits No data available / Not applicable Vapour pressure (20 °C (68 °F)) < 3 mm hgRelative vapour density: Not available. 1,05 g/cm3 Density () Bulk density No data available / Not applicable Solubility No data available / Not applicable Solubility (qualitative) Not miscible (Solvent: Water) Partition coefficient: n-octanol/water No data available / Not applicable Auto-ignition temperature No data available / Not applicable Decomposition temperature No data available / Not applicable Viscosity No data available / Not applicable Viscosity (kinematic) No data available / Not applicable No data available / Not applicable Explosive properties No data available / Not applicable 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

No decomposition if used according to specifications.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

Irritating organic vapours. Oxides of carbon. Sulphur oxides nitrogen oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral 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			
2-Ethylhexyl methacrylate	LD0	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
688-84-6				
2-Ethylhexyl methacrylate	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
688-84-6				
Decan-1-ol	LD50	> 5.000 mg/kg	rat	EPA OPPTS 870.1100 (Acute Oral Toxicity)
112-30-1				
Cumene hydroperoxide	LD50	550 mg/kg	rat	not specified
80-15-9				
Acetic acid, 2-	LD50	270 mg/kg	rat	not specified
phenylhydrazide				
114-83-0				
Maleic acid	LD50	708 mg/kg	rat	not specified
110-16-7				
N,N'-Ethane-1,2-	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
diylbis(12-				
hydroxyoctadecan-1-				
amide)				
123-26-2				
Methyl methacrylate	LD50	9.400 mg/kg	rat	not specified
80-62-6				
1,4-Naphthalenedione	LD50	190 mg/kg	rat	not specified
130-15-4				

Acute dermal toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
2-Ethylhexyl methacrylate 688-84-6	LD50	> 20.000 mg/kg	rat	not specified
Decan-1-ol 112-30-1	LD50	> 5.000 mg/kg	rat	EPA OPPTS 870.1200 (Acute Dermal Toxicity)
Cumene hydroperoxide 80-15-9	LD50	1.200 - 1.520 mg/kg		not specified
Maleic acid 110-16-7	LD50	1.560 mg/kg	rabbit	not specified
Methyl methacrylate 80-62-6	LD50	> 5.000 mg/kg	rabbit	not specified

Acute inhalative toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Decan-1-ol 112-30-1	Acute toxicity estimate (ATE)	5,1 mg/l	dust/mist			Expert judgement
Decan-1-ol 112-30-1	LC50	4 mg/l		2 h	mouse	
Methyl methacrylate 80-62-6	LC50	29,8 mg/l	vapour	4 h	rat	not specified

Skin corrosion/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Decan-1-ol 112-30-1	not irritating	4 h	rabbit	EPA OPPTS 870.2500 (Acute Dermal Irritation)
Cumene hydroperoxide 80-15-9	corrosive		rabbit	Draize Test
Maleic acid 110-16-7	irritating	24 h	human	Patch Test

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
Decan-1-ol 112-30-1	irritating		rabbit	EPA OPPTS 870.2400 (Acute Eye Irritation)
Maleic acid 110-16-7	highly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

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

Hazardous substances CAS-No.	Result	Test type	Species	Method
2-Ethylhexyl methacrylate 688-84-6	sensitising	Guinea pig maximisation test	guinea pig	Magnusson and Kligman Method
Decan-1-ol 112-30-1	not sensitising	Buehler test	guinea pig	EPA OPPTS 870.2600 (Skin Sensitisation)
Maleic acid 110-16-7	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Maleic acid 110-16-7	sensitising	Mouse local lymphnode assay (LLNA)	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Methyl methacrylate 80-62-6	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
2-Ethylhexyl methacrylate 688-84-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Decan-1-ol 112-30-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		Henkel Method
Cumene hydroperoxide 80-15-9	positive	bacterial reverse mutation assay (e.g Ames test)	without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Maleic acid 110-16-7	negative	bacterial reverse mutation assay (e.g Ames test)	no data		Ames Test
Maleic acid 110-16-7	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Methyl methacrylate 80-62-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		not specified

Carcinogenicity

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
Maleic acid 110-16-7	not carcinogenic	oral: feed	2 y daily	rat	male/female	OECD Guideline 451 (Carcinogenicity Studies)

Reproductive toxicity:

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Maleic acid 110-16-7	NOAEL F1 150 mg/kg	Two generation	oral: gavage	rat	OECD Guideline 416 (Two- Generation Reproduction
	NOAEL F2 55 mg/kg	study			Toxicity Study)

STOT-single exposure:

No data available.

STOT-repeated exposure::

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

Hazardous substances	Result / Value	Route of	Exposure time /	Species	Method
CAS-No.		application	Frequency of		
			treatment		
Decan-1-ol	NOAEL 1.000 mg/kg	dermal	6 hours	rat	OECD Guideline 411
112-30-1			5d/w over 13		(Subchronic Dermal
			consecutive weeks		Toxicity: 90-Day Study)
Cumene hydroperoxide		inhalation:	6 h/d	rat	not specified
80-15-9		aerosol	5 d/w		
Maleic acid	NOAEL >= 40 mg/kg	oral: feed	90 d	rat	OECD Guideline 408
110-16-7			daily		(Repeated Dose 90-Day
					Oral Toxicity in Rodents)
Methyl methacrylate	LOAEL 2000 ppm	inhalation	14 weeks	mouse	Dose Range Finding
80-62-6			6 hrs/day, 5 days/wk		Study
Methyl methacrylate	NOAEL 1000 ppm	inhalation	14 weeks	mouse	Dose Range Finding
80-62-6			6 hrs/day, 5 days/wk		Study

Aspiration hazard:

No data available.

SECTION 12: Ecological information

General ecological information:

Cured Loctite products are typical polymers and do not pose any immediate environmental hazards. 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.

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type		_		
2-Ethylhexyl methacrylate 688-84-6	LC50	2,78 mg/l	96 h	Oryzias latipes	OECD Guideline 203 (Fish, Acute Toxicity Test)
Decan-1-ol 112-30-1	LC50	2,2 - 2,5 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Decan-1-ol 112-30-1	NOEC	0,26 mg/l	33 d	Pimephales promelas	OECD Guideline 210 (fish early lite stage toxicity test)
Cumene hydroperoxide 80-15-9	LC50	3,9 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Maleic acid 110-16-7	LC50	> 245 mg/l	48 h	Leuciscus idus	DIN 38412-15
N,N'-Ethane-1,2-diylbis(12- hydroxyoctadecan-1-amide) 123-26-2	LL50	> 10 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Methyl methacrylate 80-62-6	LC50	350 mg/l		Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (Daphnia):

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

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type				
2-Ethylhexyl methacrylate	EC50	4,56 mg/l	48 h	Daphnia magna	OECD Guideline 202
688-84-6					(Daphnia sp. Acute
					Immobilisation Test)
Decan-1-ol	EC50	2,9 mg/l	48 h	Daphnia magna	OECD Guideline 202
112-30-1		-			(Daphnia sp. Acute
					Immobilisation Test)
Cumene hydroperoxide	EC50	18 mg/l	48 h	Daphnia magna	OECD Guideline 202
80-15-9		-			(Daphnia sp. Acute
					Immobilisation Test)
Maleic acid	EC50	42,81 mg/l	48 h	Daphnia magna	OECD Guideline 202
110-16-7					(Daphnia sp. Acute
					Immobilisation Test)
N,N'-Ethane-1,2-diylbis(12-	EL50	> 10 mg/l	48 h	Daphnia magna	OECD Guideline 202
hydroxyoctadecan-1-amide)					(Daphnia sp. Acute
123-26-2					Immobilisation Test)
Methyl methacrylate	EC50	69 mg/l	48 h	Daphnia magna	OECD Guideline 202
80-62-6		-			(Daphnia sp. Acute
					Immobilisation Test)

Chronic toxicity to aquatic invertebrates

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
2-Ethylhexyl methacrylate 688-84-6	NOEC	0,105 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Decan-1-ol 112-30-1	NOEC	0,11 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type		-	•	
2-Ethylhexyl methacrylate 688-84-6	EC50	7,68 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Ethylhexyl methacrylate 688-84-6	NOEC	0,28 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Decan-1-ol 112-30-1	EC50	1,5 mg/l	72 h	Desmodesmus subspicatus	QSAR (Quantitative Structure Activity Relationship)
Decan-1-ol 112-30-1	EC10	0,7 mg/l	72 h	Desmodesmus subspicatus	QSAR (Quantitative Structure Activity Relationship)
Cumene hydroperoxide 80-15-9	ErC50	3,1 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Maleic acid 110-16-7	EC50	74,35 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
N,N'-Ethane-1,2-diylbis(12- hydroxyoctadecan-1-amide) 123-26-2	EC50	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
N,N'-Ethane-1,2-diylbis(12- hydroxyoctadecan-1-amide) 123-26-2	NOEC	100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Methyl methacrylate 80-62-6	EC50	170 mg/1	4 d	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Methyl methacrylate 80-62-6	NOEC	100 mg/1	4 d	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	
1,4-Naphthalenedione 130-15-4	EC50	0,011 mg/l	72 h	Dunaliella bioculata	OECD Guideline 201 (Alga, Growth Inhibition Test)

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

Toxicity to microorganisms

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

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type				
Decan-1-ol	EC0	10.000 mg/l	30 min	Pseudomonas putida	DIN 38412, part 27
112-30-1					(Bacterial oxygen
					consumption test)
Cumene hydroperoxide	EC10	70 mg/l	30 min		not specified
80-15-9		-			-
Methyl methacrylate	EC0	100 mg/l	30 min		not specified
80-62-6		-			_

12.2. Persistence and degradability

No data available.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
2-Ethylhexyl methacrylate 688-84-6	readily biodegradable	aerobic	88 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Decan-1-ol 112-30-1	readily biodegradable	aerobic	88 %	30 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Cumene hydroperoxide 80-15-9		no data	0 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Maleic acid 110-16-7	readily biodegradable	aerobic	97,08 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
N,N'-Ethane-1,2-diylbis(12- hydroxyoctadecan-1-amide) 123-26-2	not readily biodegradable.	aerobic	22 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Methyl methacrylate 80-62-6	readily biodegradable	aerobic	95 %	19 d	EU Method C.4-B (Determination of the "Ready" BiodegradabilityModified OECD Screening Test)
1,4-Naphthalenedione 130-15-4		no data	0 - 60 %		OECD 301 A - F

12.3. Bioaccumulative potential

No data available.

Hazardous substances	Bioconcentratio	Exposure time	Temperature	Species	Method
CAS-No.	n factor (BCF)				
2-Ethylhexyl methacrylate	37	56 h	24 °C	Danio rerio	OECD Guideline 305
688-84-6					(Bioconcentration: Flow-through
					Fish Test)
Decan-1-ol	20			calculated	QSAR (Quantitative Structure
112-30-1					Activity Relationship)
Cumene hydroperoxide	9,1			calculation	OECD Guideline 305
80-15-9					(Bioconcentration: Flow-through
					Fish Test)

12.4. Mobility in soil

Cured adhesives are immobile.

Hazardous substances	LogPow	Temperature	Method
CAS-No.			
2-Ethylhexyl methacrylate	4,95	20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake
688-84-6			Flask Method)
Decan-1-ol	4,5	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC
112-30-1			Method)
Cumene hydroperoxide	2,16		not specified
80-15-9			
Acetic acid, 2-	0,74		not specified
phenylhydrazide			
114-83-0			
Maleic acid	-1,3	20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake
110-16-7			Flask Method)
N,N'-Ethane-1,2-diylbis(12-	5,86		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC
hydroxyoctadecan-1-amide)			Method)
123-26-2			
Methyl methacrylate	1,38		not specified
80-62-6			
1,4-Naphthalenedione	1,71		not specified
130-15-4			

12.5. Results of PBT and vPvB assessment

Hazardous substances	PBT / vPvB
CAS-No.	
2-Ethylhexyl methacrylate	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
688-84-6	Bioaccumulative (vPvB) criteria.
Decan-1-ol	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
112-30-1	Bioaccumulative (vPvB) criteria.
Cumene hydroperoxide	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
80-15-9	Bioaccumulative (vPvB) criteria.
Maleic acid	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
110-16-7	Bioaccumulative (vPvB) criteria.
N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecan-	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
1-amide)	Bioaccumulative (vPvB) criteria.
123-26-2	
Methyl methacrylate	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
80-62-6	Bioaccumulative (vPvB) criteria.
1,4-Naphthalenedione	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
130-15-4	Bioaccumulative (vPvB) criteria.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

Dispose of in accordance with local and national regulations. Contribution of this product to waste is very insignificant in comparison to article in which it is used

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 <5 % (2010/75/EC)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

Page 21 of 21

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:

H225 Highly flammable liquid and vapor.

- H242 Heating may cause a fire.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- 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.
- H330 Fatal if inhaled.
- H331 Toxic 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.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.
- H413 May cause long lasting harmful effects to aquatic life.

Further information:

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

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.