



## Safety Data Sheet

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LOCTITE 648 RC known as Loctite 648 RC BO50ML EN/CH/JP

SDS No. : 450730

V001.13

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### Section 1. Identification of the substance/preparation and of the company/undertaking

**Product name:**

LOCTITE 648 RC known as Loctite 648 RC BO50ML EN/CH/JP

**Other means of identification:**

LOCTITE 648 RC BO50ML EN/CH/JP LOCTITE 648 RC BO50ML EN/CH/JP

**Product code:**

IDH1800518

**Recommended use of the chemical and restrictions on use**

**Intended use:**

Adhesive

**Identification of manufacturer, importer or distributor**

**Manufacturer:** Henkel Adhesives Technologies India Pvt. Ltd. D3/D4, MIDC, Jejuri - 412303 India. TEL : +91 2115 300017 / 18 FAX : + 91 2115 253448, Website : www.henkel.com

**Importer:** Henkel Thailand Ltd The Offices at Centralworld, 35th Floor, 999/9 Rama 1 Rd, Kwang Patumwan, Khet Patumwan, Bangkok 10330, Thailand. Phone : + 6622098000 Fax : +6622098008

**E-mail address of person responsible for Safety Data Sheet:**

ap-ua-psra.sea@henkel.com

**Emergency information:**

FOR EMERGENCIES ONLY (Spill, major leak, Fire, Exposure, or Accident). Call CHEMTREC: +1 703-741-5970

### Section 2. Hazards identification

**GHS Classification:**

<u>Hazard Class</u>	<u>Hazard Category</u>	<u>Target organ</u>
Skin corrosion/irritation	Category 2	
Serious eye damage/eye irritation	Category 1	
Skin sensitizer	Category 1	
Specific target organ toxicity - single exposure	Category 3	respiratory tract irritation
Chronic hazards to the aquatic environment	Category 3	

**GHS label elements:**

**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.

**Precaution:**

**Prevention:**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

P302+P352 IF ON SKIN: Wash with plenty of water.

P304+P340+P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P362+P364 Take off contaminated clothing and wash it before reuse.

**Storage:**

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

**Disposal:**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Section 3. Composition / information on ingredients**

**Substance or Mixture:**  
Mixture

**Declaration of hazardous chemical:**

Hazard component CAS-No.	Content	GHS Classification
Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-[2-(2-(methacryloyloxy)ethoxy]ethoxy)phenyl)propan-2-yl]phenoxy}ethyl methacrylate	30- 60 %	Chronic hazards to the aquatic environment 4 H413
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	10- 30 %	Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 2A H319 Skin sensitizer 1B H317 Specific target organ toxicity - single exposure 3 H335 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
2-Hydroxyethyl methacrylate 868-77-9	10- 30 %	Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 2A H319 Skin sensitizer 1 H317
Acrylic acid 79-10-7	1- 10 %	Flammable liquids 3 H226 Acute toxicity 4; Oral H302 Acute toxicity 4; Inhalation H332 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 1 H314 Specific target organ toxicity - single exposure 3 H335 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 2 H411
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	1- 10 %	Serious eye damage/eye irritation 2B H320 Skin sensitizer 1 H317
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	1- 10 %	Flammable liquids 4 H227 Organic peroxides E H242 Acute toxicity 4; Oral H302 Acute toxicity 2; Inhalation H330 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 1 H314 Specific target organ toxicity - single exposure 3 H335 Specific target organ toxicity - repeated exposure 2 H373 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
maleic acid	0.1- 1 %	Acute toxicity 4; Oral

110-16-7		H302 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 2A H319 Skin sensitizer 1 H317 Specific target organ toxicity - single exposure 3 H335 Acute hazards to the aquatic environment 3 H402
Reaction products of 4,4'-isopropylidenediphenol, ethoxylated and methacrylic acid	0.1- 1 %	Chronic hazards to the aquatic environment 4 H413
Acetic acid, 2-phenylhydrazide 114-83-0	0.1- 1 %	Acute toxicity 3; Oral H301 Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 2A H319 Skin sensitizer 1 H317 Carcinogenicity 2 H351
methacrylic acid 79-41-4	0.1- 1 %	Flammable liquids 4 H227 Acute toxicity 4; Oral H302 Acute toxicity 4; Inhalation H332 Acute toxicity 3; Dermal H311 Skin corrosion/irritation 1 H314 Serious eye damage/eye irritation 1 H318 Specific target organ toxicity - single exposure 3 H335 Acute hazards to the aquatic environment 3 H402
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	0.1- 1 %	Skin sensitizer 1B H317 Acute hazards to the aquatic environment 3 H402
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	0.1- 1 %	Serious eye damage/eye irritation 2B H320 Skin sensitizer 1 H317

**Section 4. First aid measures**

**Inhalation:**

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

**Skin contact:**

Rinse with running water and soap.  
Seek medical advice.

**Eye contact:**

Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.

**Ingestion:**

Rinse out mouth, drink 1-2 glasses of water, do not induce vomiting.  
Seek medical advice.

**Indication of immediate medical attention and special treatment needed:**

See section: Description of first aid measures

### Section 5. Fire fighting measures

**Suitable extinguishing media:**

Carbon dioxide, foam, powder  
Fine water spray

**Specific hazards arising from the chemical:**

In the event of a fire, carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>) can be released.

**Special protection equipment and precautions for firefighters:**

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

**Additional fire fighting advice:**

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

### Section 6. Accidental release measures

**Personal precautions:**

Ensure adequate ventilation.  
Avoid contact with skin and eyes.  
Wear protective equipment.  
See advice in section 8

**Environmental precautions:**

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

**Clean-up methods:**

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.  
Dispose of contaminated material as waste according to Section 13.

### Section 7. Handling and storage

**Handling:**

Use only with adequate ventilation.  
Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.  
Avoid skin and eye contact.  
See advice in section 8

**Storage:**

Ensure good ventilation/extraction.  
Store at room temperature.  
Refer to Technical Data Sheet

**Section 8. Exposure controls / personal protection****Components with specific control parameters for workplace:**

ACRYLIC ACID 79-10-7	<b>Value type</b>	Time Weighted Average (TWA):
	<b>ppm</b>	2
	<b>Remarks</b>	ACGIH
ACRYLIC ACID 79-10-7	<b>Value type</b>	Time Weighted Average (TWA):
	<b>ppm</b>	2
	<b>Remarks</b>	TH OEL
ACRYLIC ACID 79-10-7	<b>Value type</b>	Skin designation:
	<b>Remarks</b>	ACGIH Danger of cutaneous absorption
METHACRYLIC ACID 79-41-4	<b>Value type</b>	Time Weighted Average (TWA):
	<b>ppm</b>	20
	<b>Remarks</b>	ACGIH

**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;  $\geq$  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;  $\geq$  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:**

Wear protective glasses.

Protective eye equipment should conform to EN166.

**Body protection:**

Wear suitable protective clothing.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

**Engineering controls:**

Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.

**Hygienic measures:**

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Take off contaminated clothing and wash before reuse.

**Section 9. Physical and chemical properties****Appearance:**

green  
liquid

**Odor:**

characteristic

**Odor threshold (CA):**

No data available.

<b>pH:</b>	No data available.
<b>Melting point / freezing point:</b>	No data available.
<b>Specific gravity:</b>	1.1
<b>Boiling point:</b>	> 148 °C (> 298.4 °F)
<b>Flash point:</b>	93.3 °C (199.94 °F)
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Lower explosive limit:</b>	No data available.
<b>Upper explosive limit:</b>	No data available.
<b>Vapor pressure:</b> (; 26 °C (78.8 °F))	< 5 mm hg
<b>Vapor density:</b>	No data available.
<b>Density:</b>	1.1 g/cm <sup>3</sup>
<b>Solubility:</b>	Insoluble
<b>Partition coefficient: n-octanol/water:</b>	No data available.
<b>Auto ignition:</b>	Not available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b> (; Method: no method)	450 - 550 mPa.s
<b>VOC content:</b> (2010/75/EC)	< 3 %

## Section 10. Stability and reactivity

### Reactivity/Incompatible materials:

Peroxides.

### Chemical stability:

Stable under recommended storage conditions.

### Conditions to avoid:

Stable under normal conditions of storage and use.

### Hazardous decomposition products:

carbon oxides.

## Section 11. Toxicological information

<b>Oral toxicity:</b>	Acute toxicity estimate (ATE) : > 2,000 mg/kg Method: Calculation method
<b>Inhalative toxicity:</b>	Acute toxicity estimate (ATE) : > 20 mg/l Exposure time: 4 h Test atmosphere: Vapor. Method: Calculation method
<b>Dermal toxicity:</b>	Acute toxicity estimate (ATE) : > 2,000 mg/kg Method: Calculation method
<b>Skin irritation:</b>	Result: Skin irritation.

**Health Effects:**

Ingestion: May cause gastrointestinal tract irritation if swallowed.  
 Skin: May cause skin sensitization.  
 Eyes: Causes serious eye damage.  
 Inhalation: May cause respiratory irritation.  
 Symptoms of Overexposure: After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).  
 SKIN: Redness, inflammation.  
 RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.  
 SKIN: Rash, Urticaria.

**Acute oral toxicity:**

Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediy) bismethacrylate and 2-{4-[2-(4-[2-(methacryloyloxy)etho	Value type	LD50
	Value	> 35,000 mg/kg
	Species	rat
	Method	not specified
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	Value type	LD0
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
2-Hydroxyethyl methacrylate 868-77-9	Value type	LD50
	Value	5,564 mg/kg
	Species	rat
	Method	FDA Guideline
Acrylic acid 79-10-7	Value type	LD50
	Value	1,500 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
α, α-dimethylbenzyl hydroperoxide 80-15-9	Value type	LD50
	Value	382 mg/kg
	Species	rat
	Method	other guideline:
maleic acid 110-16-7	Value type	LD50
	Value	708 mg/kg
	Species	rat
	Method	not specified
Reaction products of 4,4'-isopropylidenediphenol, ethoxylated and methacrylic acid	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 423 (Acute Oral toxicity)
Acetic acid, 2-phenylhydrazide 114-83-0	Value type	LD50
	Value	270 mg/kg
	Species	rat
	Method	not specified
methacrylic acid 79-41-4	Value type	LD50
	Value	1,320 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
2,2'-Ethylendioxydiethyl dimethacrylate 109-16-0	Value type	LD50
	Value	10,837 mg/kg
	Species	rat
	Method	not specified
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	Value type	LD50
	Value	5,564 mg/kg
	Species	rat
	Method	FDA Guideline



**Acute inhalative toxicity:**

Acrylic acid 79-10-7	Value type	LC0
	Value	5.1 mg/l
	Exposure time	4 h
	Species	rat
	Method	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
Acrylic acid 79-10-7	Value type	Acute toxicity estimate (ATE)
	Value	11 mg/l
	Exposure time	
	Species	
	Method	Expert judgement
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	Value type	LC50
	Value	1.370 mg/l
	Exposure time	4 h
	Species	rat
	Method	not specified
methacrylic acid 79-41-4	Value type	LC50
	Value	> 3.6 mg/l
	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 403 (Acute Inhalation Toxicity)
methacrylic acid 79-41-4	Value type	Acute toxicity estimate (ATE)
	Value	3.61 mg/l
	Exposure time	
	Species	
	Method	Expert judgement
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Value type	Acute toxicity estimate (ATE)
	Value	28.17 mg/l
	Exposure time	
	Species	
	Method	Expert judgement

**Acute dermal toxicity:**

Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-[2-(methacryloyloxy)ethoxy]ethoxy]ethoxy]ethoxy}ethoxy	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	Value type	LD0
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
2-Hydroxyethyl methacrylate 868-77-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rabbit
	Method	not specified
Acrylic acid 79-10-7	Value type	Acute toxicity estimate (ATE)
	Value	1,100 mg/kg
	Species	
	Method	Expert judgement
Acrylic acid 79-10-7	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rabbit
	Method	not specified
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide	Value type	Acute toxicity estimate (ATE)

80-15-9	Value	1,100 mg/kg
	Species	
	Method	Expert judgement
maleic acid 110-16-7	Value type	LD50
	Value	1,560 mg/kg
	Species	rabbit
	Method	not specified
Reaction products of 4,4'- isopropylidenediphenol, ethoxylated and methacrylic acid	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
methacrylic acid 79-41-4	Value type	LD50
	Value	500 - 1,000 mg/kg
	Species	rabbit
	Method	Dermal Toxicity Screening
methacrylic acid 79-41-4	Value type	Acute toxicity estimate (ATE)
	Value	500 mg/kg
	Species	
	Method	Expert judgement
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Value type	Acute toxicity estimate (ATE)
	Value	> 5,000 mg/kg
	Species	
	Method	Expert judgement
2-Propenoic acid, 2-methyl-, 2-(2- hydroxyethoxy)ethyl ester 2351-43-1	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rabbit
	Method	not specified

**Skin corrosion/irritation:**

Reaction mass of (1- methylethylidene)bis(4,1-phenyleneoxy- 2,1-ethanediy) bismethacrylate and 2- {4-[2-(4-[2-[2-(methacryloyloxy)etho	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	not specified
2-Hydroxyethyl methacrylate 868-77-9	Result	slightly irritating
	Exposure time	24 h
	Species	rabbit
	Method	Draize Test
Acrylic acid 79-10-7	Result	Category 1 (corrosive)
	Exposure time	3 min
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	Draize Test
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	Result	corrosive
	Exposure time	
	Species	rabbit
	Method	Draize Test
maleic acid 110-16-7	Result	irritating
	Exposure time	24 h
	Species	human
	Method	Patch Test
Reaction products of 4,4'- isopropylidenediphenol, ethoxylated and methacrylic acid	Result	not irritating
	Exposure time	15 min
	Species	Human, EpiSkin™ (SM), Reconstructed Human Epidermis (RHE)
	Method	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
methacrylic acid 79-41-4	Result	corrosive
	Exposure time	3 min
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Result	not irritating
	Exposure time	24 h
	Species	rabbit

	Method	Draize Test
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	Draize Test

**Serious eye damage/irritation:**

Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-[2-[2-(methacryloyloxy)etho	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	not specified
2-Hydroxyethyl methacrylate 868-77-9	Result	Category 2B (mildly irritating to eyes)
	Exposure time	
	Species	rabbit
	Method	Draize Test
Acrylic acid 79-10-7	Result	Category 1 (irreversible effects on the eye)
	Exposure time	
	Species	rabbit
	Method	BASF Test
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	Category 2B (mildly irritating to eyes)
	Exposure time	
	Species	rabbit
	Method	Draize Test
maleic acid 110-16-7	Result	highly irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Reaction products of 4,4'-isopropylidenediphenol, ethoxylated and methacrylic acid	Result	not irritating
	Exposure time	
	Species	Bovine, cornea, in vitro test
	Method	OECD Guideline 437 (BCOP)
methacrylic acid 79-41-4	Result	corrosive
	Exposure time	
	Species	rabbit
	Method	Draize Test
2,2'-Ethylendioxydiethyl dimethacrylate 109-16-0	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	Result	irritating
	Exposure time	
	Species	rabbit
	Method	Draize Test

**Respiratory or skin sensitization:**

Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediy) bismethacrylate and 2-[4-[2-(4-[2-(2-(methacryloyloxy)etho	Result	not sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
2-Hydroxyethyl methacrylate 868-77-9	Result	not sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	Buehler test
2-Hydroxyethyl methacrylate 868-77-9	Result	sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	Magnusson and Kligman Method
Acrylic acid 79-10-7	Result	not sensitising
	Test type	Freund's complete adjuvant test
	Species	guinea pig
	Method	Klecak Method
Acrylic acid 79-10-7	Result	not sensitising
	Test type	Split adjuvant test
	Species	guinea pig
	Method	Maguire Method
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	not sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	not specified
maleic acid 110-16-7	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
maleic acid 110-16-7	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
Reaction products of 4,4'-isopropylidenediphenol, ethoxylated and methacrylic acid	Result	not sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
methacrylic acid 79-41-4	Result	not sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

**Germ cell mutagenicity:**

Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-{2-[2-(methacryloyloxy)etho	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-{2-[2-(methacryloyloxy)etho	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-{2-[2-(methacryloyloxy)etho	Result	negative
	Type of study / Route of administration	in vitro mammalian cell micronucleus test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2-Hydroxyethyl methacrylate 868-77-9	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2-Hydroxyethyl methacrylate 868-77-9	Result	positive
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
2-Hydroxyethyl methacrylate 868-77-9	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
2-Hydroxyethyl methacrylate 868-77-9	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	rat
2-Hydroxyethyl methacrylate 868-77-9	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	Drosophila melanogaster
Acrylic acid 79-10-7	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Acrylic acid 79-10-7	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Acrylic acid 79-10-7	Result	negative
	Type of study / Route of administration	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro
	Metabolic activation / Exposure time	without
	Method	equivalent or similar to OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells)
Acrylic acid 79-10-7	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	

	Species	rat
	Method	equivalent or similar to OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)
Acrylic acid 79-10-7	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	not specified
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	positive
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	Chromosome Aberration Test
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	Drosophila melanogaster
	Method	not specified
α, α-dimethylbenzyl hydroperoxide 80-15-9	Result	positive
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
α, α-dimethylbenzyl hydroperoxide 80-15-9	Result	negative
	Type of study / Route of administration	dermal
	Metabolic activation / Exposure time	
	Species	mouse
	Method	not specified
maleic acid 110-16-7	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	no data
	Method	Ames Test
maleic acid 110-16-7	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Reaction products of 4,4'- isopropylidenediphenol, ethoxylated and methacrylic acid	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Reaction products of 4,4'- isopropylidenediphenol, ethoxylated and methacrylic acid	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Reaction products of 4,4'- isopropylidenediphenol, ethoxylated and methacrylic acid	Result	negative
	Type of study / Route of administration	in vitro mammalian cell micronucleus test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
methacrylic acid 79-41-4	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)

methacrylic acid 79-41-4	Result	negative
	Type of study / Route of administration	inhalation
	Metabolic activation / Exposure time	
	Species	mouse
methacrylic acid 79-41-4	Method	equivalent or similar to OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)
	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Species	mouse
	Method	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
	Result	negative
	Type of study / Route of administration	in vitro mammalian cell micronucleus test
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)

**Repeated dose toxicity:**

Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediy) bismethacrylate and 2-[4-[2-(4-[2-[2-(methacryloyloxy)etho	Result	NOAEL=1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	13 weeksdaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	Result	NOAEL=1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	28 ddaily
	Species	rat
	Method	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
2-Hydroxyethyl methacrylate 868-77-9	Result	NOAEL=100 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	49 ddaily
	Species	rat
	Method	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
2-Hydroxyethyl methacrylate 868-77-9	Result	NOAEL=0.352 mg/l
	Route of application	inhalation
	Exposure time / Frequency of treatment	90 d6 h/d, 5 d/w
	Species	rat
	Method	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
Acrylic acid 79-10-7	Result	NOAEL=40 mg/kg
	Route of application	oral: drinking water
	Exposure time / Frequency of treatment	12 mdaily
	Species	rat
	Method	equivalent or similar to OECD Guideline 452 (Chronic Toxicity Studies)
Acrylic acid 79-10-7	Result	NOAEL=0.015 mg/l
	Route of application	inhalation: vapour
	Exposure time / Frequency of treatment	90 d6 h/d, 5 d/w
	Species	mouse
	Method	equivalent or similar to OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	NOAEL=300 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	49 ddaily
	Species	rat
	Method	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	NOAEL=0.352 mg/l
	Route of application	inhalation
	Exposure time / Frequency of treatment	90 d6 h/d, 5 d/w
	Species	rat
	Method	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	Result	
	Route of application	inhalation: aerosol
	Exposure time / Frequency of treatment	6 h/d5 d/w
	Species	rat
	Method	not specified
maleic acid 110-16-7	Result	NOAEL=>= 40 mg/kg
	Route of application	oral: feed
	Exposure time / Frequency of treatment	90 ddaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Reaction products of 4,4'-isopropylidenediphenol, ethoxylated and methacrylic acid	Result	NOAEL=1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	13 weeksdaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral



		Toxicity in Rodents)
methacrylic acid 79-41-4	Result	
	Route of application	inhalation
	Exposure time / Frequency of treatment	90 d6 h/d, 5 d/w
	Species	rat
	Method	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Result	NOAEL=1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	daily
	Species	rat
	Method	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

### Section 12. Ecological information

**General ecological information:** Do not empty into drains / surface water / ground water.

**Ecotoxicity:** Harmful to aquatic life with long lasting effects.

**Toxicity:**

Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-{2-[2-(methacryloyloxy)etho	Value type	LL50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Danio rerio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
	Value type	NOEC
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Fish
	Exposure time	34 d
	Species	Danio rerio
	Method	OECD Guideline 210 (fish early lite stage toxicity test)
Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-{2-[2-(methacryloyloxy)etho	Value type	EL50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-{2-[2-(methacryloyloxy)etho	Value type	EL50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-{2-[2-(methacryloyloxy)etho	Value type	EC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge of a predominantly domestic sewage
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	Value type	LC50
	Value	1.9 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Brachydanio rerio (new name: Danio rerio)
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	Value type	EC50
	Value	14.43 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	Value type	EC10
	Value	0.43 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h

	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	Value type	LC50
	Value	> 100 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oryzias latipes
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-Hydroxyethyl methacrylate 868-77-9	Value type	EC50
	Value	380 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-Hydroxyethyl methacrylate 868-77-9	Value type	EC50
	Value	836 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	400 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	Value type	EC0
	Value	> 3,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	16 h
	Species	Pseudomonas fluorescens
	Method	other guideline:
Acrylic acid 79-10-7	Value type	LC50
	Value	27 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Salmo gairdneri (new name: Oncorhynchus mykiss)
	Method	EPA OTS 797.1400 (Fish Acute Toxicity Test)
	Value type	NOEC
	Value	>= 10.1 mg/l
	Acute Toxicity Study	Fish
	Exposure time	45 d
	Species	Oryzias latipes
	Method	OECD Guideline 210 (fish early lite stage toxicity test)
Acrylic acid 79-10-7	Value type	EC50
	Value	95 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)
Acrylic acid 79-10-7	Value type	EC10
	Value	0.03 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)
	Method	EU Method C.3 (Algal Inhibition test)
	Value type	EC50
	Value	0.13 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)
	Method	EU Method C.3 (Algal Inhibition test)
Acrylic acid 79-10-7	Value type	EC20
	Value	900 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	30 min
	Species	activated sludge, domestic

	Method	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Value type	LC50
	Value	493 mg/l
	Acute Toxicity Study	Fish
	Exposure time	48 h
	Species	Leuciscus idus melanotus
	Method	DIN 38412-15
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Value type	EC50
	Value	> 143 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Value type	EC50
	Value	> 97.2 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	> 97.2 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Value type	EC10
	Value	1,140 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	16 h
	Species	
	Method	not specified
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	Value type	LC50
	Value	3.9 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	Value type	EC50
	Value	18.84 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	Value type	EC50
	Value	3.1 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	1 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	Value type	EC10
	Value	70 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	30 min
	Species	not specified
	Method	not specified
maleic acid 110-16-7	Value type	LC50
	Value	> 245 mg/l
	Acute Toxicity Study	Fish
	Exposure time	48 h
	Species	Leuciscus idus
	Method	DIN 38412-15

maleic acid 110-16-7	Value type	EC50
	Value	42.81 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
maleic acid 110-16-7	Value type	EC50
	Value	74.35 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC10
	Value	11.8 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
maleic acid 110-16-7	Value type	EC10
	Value	44.6 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	18 h
	Species	Pseudomonas putida
	Method	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
Reaction products of 4,4'- isopropylidenediphenol, ethoxylated and methacrylic acid	Value type	LL50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Reaction products of 4,4'- isopropylidenediphenol, ethoxylated and methacrylic acid	Value type	EL50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Reaction products of 4,4'- isopropylidenediphenol, ethoxylated and methacrylic acid	Value type	EL50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EL10
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
methacrylic acid 79-41-4	Value type	LC50
	Value	85 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Salmo gairdneri (new name: Oncorhynchus mykiss)
	Method	EPA OTS 797.1400 (Fish Acute Toxicity Test)
methacrylic acid 79-41-4	Value type	EC50
	Value	> 130 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)
methacrylic acid 79-41-4	Value type	NOEC
	Value	8.2 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC50
	Value	45 mg/l

	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
methacrylic acid 79-41-4	Value type	EC10
	Value	100 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	17 h
	Species	
	Method	not specified
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Value type	LC50
	Value	16.4 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Danio rerio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	Value type	EC50
	Value	> 100 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	18.6 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)

**Persistence and degradability:**

Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-{2-[2-(methacryloyloxy)etho	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	> 19.9 - 41.3 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
	Result	inherently biodegradable
	Route of application	aerobic
	Degradability	> 52.2 - 65.5 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	16.8 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2-Hydroxyethyl methacrylate 868-77-9	Result	readily biodegradable
	Route of application	aerobic
	Degradability	92 - 100 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Acrylic acid 79-10-7	Result	inherently biodegradable
	Route of application	aerobic
	Degradability	100 %
	Method	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
	Result	readily biodegradable
	Route of application	aerobic
	Degradability	81 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	Result	readily biodegradable
	Route of application	aerobic
	Degradability	94.2 %
	Method	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
α, α-dimethylbenzyl hydroperoxide 80-15-9	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	3 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

maleic acid 110-16-7	Result	readily biodegradable
	Route of application	aerobic
	Degradability	97.08 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Reaction products of 4,4'-isopropylidenediphenol, ethoxylated and methacrylic acid	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	43 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
	Result	inherently biodegradable
	Route of application	aerobic
	Degradability	66 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
methacrylic acid 79-41-4	Result	inherently biodegradable
	Route of application	aerobic
	Degradability	100 %
	Method	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
	Result	readily biodegradable
	Route of application	aerobic
	Degradability	86 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
2,2'-Ethylendioxydiethyl dimethacrylate 109-16-0	Result	readily biodegradable
	Route of application	aerobic
	Degradability	85 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1	Result	readily biodegradable
	Route of application	aerobic
	Degradability	92 - 100 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

**Bioaccumulative potential / Mobility in soil:**

Reaction mass of (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate and 2-{4-[2-(4-{2-[2-(methacryloyloxy)etho	LogPow	> 6.2
	Temperature	
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9	LogPow	5.25
	Temperature	20 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
2-Hydroxyethyl methacrylate 868-77-9	LogPow	0.42
	Temperature	25 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Acrylic acid 79-10-7	Bioconcentration factor (BCF)	3.16
	Exposure time	
	Species	
	Method	QSAR (Quantitative Structure Activity Relationship)
Acrylic acid 79-10-7	LogPow	0.46
	Temperature	25 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	LogPow	0.97
	Temperature	20 °C
	Method	not specified
α, α-dimethylbenzyl hydroperoxide 80-15-9	Bioconcentration factor (BCF)	9.1
	Exposure time	
	Species	calculation
	Method	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
α, α-dimethylbenzyl hydroperoxide 80-15-9	LogPow	1.6
	Temperature	25 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
maleic acid 110-16-7	LogPow	-1.3
	Temperature	20 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

Reaction products of 4,4'-isopropylidenediphenol, ethoxylated and methacrylic acid	LogPow	> 5.3 - 5.62
	Temperature	
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Acetic acid, 2-phenylhydrazide 114-83-0	LogPow	0.74
	Temperature	
	Method	not specified
methacrylic acid 79-41-4	LogPow	0.93
	Temperature	22 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	LogPow	2.3
	Temperature	
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

### Section 13. Disposal considerations

#### Product

**Method of 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

#### Packaging

**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.

Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

### Section 14. Transport information

**Road transport ADR:**

Not dangerous goods

**Railroad transport RID:**

Not dangerous goods

**Inland water transport ADN:**

Not dangerous goods

**Marine transport IMDG:**

Not dangerous goods

**Air transport IATA:**

Not dangerous goods

### Section 15. Regulatory information

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**Regulatory Information:**

Ministry of Industry Notice. The system to classify and communicate the hazard of hazardous material, BE. 2555

**Global inventory status:**

Regulatory list	Notification
TSCA	yes
DSL	yes
ISHL (JP)	yes
NZIOC	yes

**Section 16. Other information**

**Disclaimer:**

This Safety Data Sheet has been generated based on Ministry of Industry Notice. The system to classify and communicate the hazard of hazardous material, BE. 2555 only. No warranty or representation of any kind is given with respect to the substantive or export laws of any other jurisdiction or country. Please confirm that the information provided herein conforms to the substantive export or other law of any other jurisdiction prior to export. Please contact Henkel Product Safety and Regulatory Affairs for additional assistance. This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

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