



## Safety Data Sheet

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LOCTITE 243 BO250ML AU

SDS No. : 316211

V001.26

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

**Product name:**

LOCTITE 243 BO250ML AU

**Other means of identification:**

LOCTITE 243 BO250ML AU

**Product code:**

IDH1311323

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

**Intended use:**

Adhesive

**Manufacturer/Importer/Distributor Representative Company**

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

ap-ua-psra.sea@henkel.com

**Emergency Telephone for Chemical Accidents:**

FOR EMERGENCIAS 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 2	
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:**

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.

**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.

P337+P313 If eye irritation persists: 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
Tetramethylene dimethacrylate 2082-81-7	10- 30 %	Skin sensitizer 1B H317 Acute hazards to the aquatic environment 2 H401
2,4,6-Triallyloxy-1,3,5-triazine 101-37-1	1- 10 %	Acute toxicity 4; Oral H302 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
2-[[2,2-bis[[[1-oxoallyl]oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1	1- 10 %	Serious eye damage/eye irritation 2B H320 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	1- 10 %	
Ethene, homopolymer 9002-88-4	1- 10 %	
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	0.1- 1 %	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 110-16-7	0.1- 1 %	Acute toxicity 4; Oral 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
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

		<p>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</p>
<p>1,4-Naphthalenedione 130-15-4</p>	<p>&lt; 0.1 %</p>	<p>Acute toxicity 3; Oral H301 Acute toxicity 1; Inhalation H330 Skin corrosion/irritation 1 H314 Serious eye damage/eye irritation 1 H318 Skin sensitizer 1 H317 Specific target organ toxicity - single exposure 3 H335 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410</p>

**Section 4. 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 if necessary.

**Ingestion:**

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

**Section 5. Fire fighting measures**

**Suitable extinguishing media:**

water, carbon dioxide, foam, powder

**Improper extinguishing media:**

High pressure waterjet

**Specific hazards arising from the chemical:**

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</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:**

Avoid skin and eye contact.

Ensure adequate ventilation.

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 in well-ventilated areas.

Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.

Avoid skin and eye contact.

See advice in section 8

## Section 8. Exposure controls / personal protection

### Components with specific control parameters for workplace:

Particles (insoluble or poorly soluble) not otherwise specified, respirable particles 68611-44-9	<b>Value type</b>	Time Weighted Average (TWA):
	<b>mg/m<sup>3</sup></b>	3
	<b>Remarks</b>	ACGIH
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles 68611-44-9	<b>Value type</b>	Time Weighted Average (TWA):
	<b>mg/m<sup>3</sup></b>	10
	<b>Remarks</b>	ACGIH
PARTICLES (INSOLUBLE OR POORLY SOLUBLE) NOT OTHERWISE SPECIFIED, INHALABLE PARTICLES 9002-88-4	<b>Value type</b>	Time Weighted Average (TWA):
	<b>mg/m<sup>3</sup></b>	10
	<b>Remarks</b>	ACGIH
PARTICLES (INSOLUBLE OR POORLY SOLUBLE) NOT OTHERWISE SPECIFIED, RESPIRABLE PARTICLES 9002-88-4	<b>Value type</b>	Time Weighted Average (TWA):
	<b>mg/m<sup>3</sup></b>	3
	<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; >= 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:

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.

#### General protection and hygiene measures:

The workplace should be equipped with an emergency shower and eye-rinsing facility.

#### 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

<b>Appearance:</b>	blue liquid
<b>Odor:</b>	characteristic
<b>Odor threshold (CA):</b>	No data available.
<b>pH:</b>	Not applicable, Product is non-polar/aprotic.
<b>Melting point / freezing point:</b>	Not applicable, Product is a liquid
<b>Specific gravity:</b>	No data available.
<b>Boiling point:</b>	> 70 °C (> 158 °F) > 150 °C (> 302 °F)
<b>Flash point:</b>	> 100 °C (> 212 °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>	< 0.1 mm hg
	(; 27 °C (80.6 °F); 25 °C (77 °F)no method / method unknown;
	< 300 mbar
	50 °C (122 °F); 20 °C (68 °F)) < 0.13 mbar
<b>Vapor density:</b>	> 1
<b>Density:</b>	1.08 g/cm <sup>3</sup>
<b>Solubility:</b>	Insoluble (20 °C)
<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>	No data available.
<b>VOC content:</b>	No data available.

### Section 10. Stability and reactivity

**Reactivity/Incompatible materials:**  
Peroxides.

**Chemical stability:**  
Stable under recommended storage conditions.

**Conditions to avoid:**  
No decomposition if used according to specifications.

**Hazardous decomposition products:**  
carbon oxides.

### Section 11. Toxicological information

**Oral toxicity:** Acute toxicity estimate (ATE) : > 2,000 mg/kg  
Method: Calculation method

**Inhalative toxicity:** Acute toxicity estimate (ATE) : > 20 mg/l  
Exposure time: 4 h  
Test atmosphere: Vapor.  
Method: Calculation method

**Health Effects:**

Skin: Causes skin irritation.  
May cause an allergic skin reaction.

Eyes: Causes serious eye damage.

Inhalation: May cause respiratory tract irritation.

Symptoms of Overexposure: None known.

**Acute oral toxicity:**

Tetramethylene dimethacrylate 2082-81-7	Value type	LD50
	Value	10,066 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
2,4,6-Triallyloxy-1,3,5-triazine 101-37-1	Value type	LD50
	Value	753 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
2-[[2,2-bis[[1-(1-oxoallyloxy)methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Ethene, homopolymer 9002-88-4	Value type	Acute toxicity estimate (ATE)
	Value	> 5,000 mg/kg
	Species	
	Method	Expert judgement
$\alpha$ , $\alpha$ -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
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)
1,4-Naphthalenedione 130-15-4	Value type	LD50
	Value	124 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)



**Acute inhalative toxicity:**

Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	LC50
	Value	> 5.01 mg/l
	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class (ATC) Method)
Ethene, homopolymer 9002-88-4	Value type	Acute toxicity estimate (ATE)
	Value	> 5 mg/l
	Exposure time	4 h
	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
1,4-Naphthalenedione 130-15-4	Value type	LC50
	Value	0.046 mg/l
	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 403 (Acute Inhalation Toxicity)

**Acute dermal toxicity:**

Tetramethylene dimethacrylate 2082-81-7	Value type	LD50
	Value	> 3,000 mg/kg
	Species	rabbit
	Method	not specified
2,4,6-Triallyloxy-1,3,5-triazine 101-37-1	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
2-[[2,2-bis[[[1-oxoallyl]oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	not specified
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
Ethene, homopolymer 9002-88-4	Value type	Acute toxicity estimate (ATE)
	Value	> 5,000 mg/kg
	Species	
	Method	Expert judgement
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	Value type	Acute toxicity estimate (ATE)
	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
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

**Skin corrosion/irritation:**

Tetramethylene dimethacrylate 2082-81-7	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	FDA Guideline
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	not specified
$\alpha$ , $\alpha$ -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
methacrylic acid 79-41-4	Result	corrosive
	Exposure time	3 min
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
1,4-Naphthalenedione 130-15-4	Result	Category 1C (corrosive)
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

**Serious eye damage/irritation:**

Tetramethylene dimethacrylate 2082-81-7	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2-[[2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1	Result	Category 2 (irritant)
	Exposure time	
	Species	rabbit
	Method	EU Method B.5 (Acute Toxicity: Eye Irritation / Corrosion)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	not specified
Ethene, homopolymer 9002-88-4	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	FDA Guideline
maleic acid 110-16-7	Result	highly irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
methacrylic acid 79-41-4	Result	corrosive
	Exposure time	
	Species	rabbit
	Method	Draize Test

**Respiratory or skin sensitization:**

Tetramethylene dimethacrylate 2082-81-7	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	not sensitising
	Test type	Patch-Test
	Species	human
	Method	human repeat insult patch test
Ethene, homopolymer 9002-88-4	Result	not 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	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)
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)
1,4-Naphthalenedione 130-15-4	Result	sensitising
	Test type	not specified
	Species	guinea pig
	Method	not specified

**Germ cell mutagenicity:**

Tetramethylene dimethacrylate 2082-81-7	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Tetramethylene dimethacrylate 2082-81-7	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Tetramethylene dimethacrylate 2082-81-7	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)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	Ames Test
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	Chromosome Aberration Test
Ethene, homopolymer 9002-88-4	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	Ames Test
$\alpha$ , $\alpha$ -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)
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	Result	negative
	Type of study / Route of administration	dermal
	Metabolic activation / Exposure time	
	Species	mouse
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)
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	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
methacrylic acid 79-41-4	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Method	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

**Repeated dose toxicity:**

Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	NOAEL=500 mg/kg
	Route of application	oral: feed
	Exposure time / Frequency of treatment	5-8 wdaily
	Species	rat
	Method	not specified
$\alpha$ , $\alpha$ -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= $\geq$ 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)
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)

**Section 12. Ecological information**

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

**Ecotoxicity:** H412 Harmful to aquatic life with long lasting effects.

**Toxicity:**

Tetramethylene dimethacrylate 2082-81-7	Value type	LC50
	Value	32.5 mg/l
	Acute Toxicity Study	Fish
	Exposure time	48 h
	Species	
	Method	DIN 38412-15
Tetramethylene dimethacrylate 2082-81-7	Value type	EC50
	Value	9.79 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	2.11 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Tetramethylene dimethacrylate 2082-81-7	Value type	NOEC
	Value	20 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	28 d
	Species	activated sludge, domestic
	Method	not specified
2,4,6-Triallyloxy-1,3,5-triazine 101-37-1	Value type	LC50
	Value	4.36 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h

	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,4,6-Triallyloxy-1,3,5-triazine 101-37-1	Value type	EC50
	Value	19.4 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2,4,6-Triallyloxy-1,3,5-triazine 101-37-1	Value type	EC0
	Value	5 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2-[[2,2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1	Value type	LC50
	Value	1.2 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Cyprinus carpio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-[[2,2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1	Value type	EC50
	Value	> 10 - 100 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-[[2,2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1	Value type	EC50
	Value	> 12 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	> 0.1 - 1 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	LC50
	Value	> 10,000 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)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	EL50
	Value	> 10,000 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	24 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	EC50
	Value	> 173 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	EC50
	Value	> 2,500 mg/l
	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)
Ethene, homopolymer 9002-88-4	Value type	LC50
	Value	> 100 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Leuciscus idus
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Ethene, homopolymer 9002-88-4	Value type	EC0
	Value	> 1,000 mg/l
	Acute Toxicity Study	Bacteria

	Exposure time	3 h
	Species	not specified
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
α, α-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)
α, α-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)
α, α-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)
α, α-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)
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)
	Value type	NOEC
	Value	10 mg/l

	Acute Toxicity Study	Fish
	Exposure time	35 d
	Species	Danio rerio
	Method	OECD Guideline 210 (fish early lite stage 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	Pseudomonas putida
	Method	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
1,4-Naphthalenedione 130-15-4	Value type	LC50
	Value	0.045 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oryzias latipes
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
1,4-Naphthalenedione 130-15-4	Value type	EC50
	Value	0.026 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1,4-Naphthalenedione 130-15-4	Value type	NOEC
	Value	0.07 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC50
	Value	0.42 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
1,4-Naphthalenedione 130-15-4	Value type	EC50
	Value	5.94 mg/l
	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)

**Persistence and degradability:**

Tetramethylene dimethacrylate 2082-81-7	Result	readily biodegradable
	Route of application	aerobic
	Degradability	84 %
	Method	OECD Guideline 310 (Ready BiodegradabilityCO2 in Sealed Vessels (Headspace Test))
2,4,6-Triallyloxy-1,3,5-triazine 101-37-1	Result	
	Route of application	aerobic



	Degradability	> 7 - 9 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
2-[[2,2-bis[[[1-oxoallyl]oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1	Result	
	Route of application	aerobic
	Degradability	4 - 14 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Ethene, homopolymer 9002-88-4	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	1 %
	Method	ISO 10708 (BODIS-Test)
$\alpha$ , $\alpha$ -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)
methacrylic acid 79-41-4	Result	readily biodegradable
	Route of application	aerobic
	Degradability	86 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
	Result	inherently biodegradable
	Route of application	aerobic
	Degradability	100 %
	Method	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
1,4-Naphthalenedione 130-15-4	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

**Bioaccumulative potential / Mobility in soil:**

Tetramethylene dimethacrylate 2082-81-7	LogPow	3.1
	Temperature	
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
2,4,6-Triallyloxy-1,3,5-triazine 101-37-1	LogPow	2.8
	Temperature	20 °C
	Method	not specified
2-[[2,2-bis[[[1-oxoallyl]oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1	LogPow	4.14
	Temperature	30 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
$\alpha$ , $\alpha$ -dimethylbenzyl hydroperoxide 80-15-9	Bioconcentration factor (BCF)	9.1
	Exposure time	
	Species	calculation
	Method	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
$\alpha$ , $\alpha$ -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)
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)
1,4-Naphthalenedione 130-15-4	LogPow	1.71
	Temperature	
	Method	not specified

### Section 13. Disposal considerations

#### Product

**Method of disposal:**

Dispose of in accordance with local and national regulations.

#### Packaging

**Disposal of uncleaned packages:**

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

**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
KECI (KR)	yes
ENCS (JP)	yes
ISHL (JP)	yes
IECSC	yes
AIIC	yes
NZIOC	yes
TCSI	yes

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### 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.

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