

Safety Data Sheet

Page 1 of 19 LOCTITE 620 RETAIN CMPND 1L

SDS No.: 153472

V001.18 Revision: 20.08.2024

printing date: 13.09.2024

respiratory tract irritation

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

Product name:

LOCTITE 620 RETAIN CMPND 1L

Other means of identification:

LOCTITE 620 RETAIN CMPND 1L

Product code:

IDH234787

Recommended use of the chemical and restrictions on use

Intended use:

Threadlocker

Manufacturer/Importer/Distributor Representative Company

Henkel Thailand Ltd. The Offices at Centralworld,

35th Floor, 999/9 Rama 1 Rd., Kwang Patumwan, Khet Patumwan,

10330 Bangkok

Thailand

Phone: +66 (2209) 8000 +66 (2209) 8008 Fax-no.:

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

ap-ua-psra.sea@henkel.com

Emergency Telephone for Chemical Accidents:

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

Section 2. Hazards identification

GHS Classification:

Hazard Class Hazard Category Target organ

Serious eye damage/eye irritation Category 2 Skin sensitizer Category 1

Specific target organ toxicity -

single exposure

Chronic hazards to the aquatic

environment

Category 2

Category 3

GHS label elements:

Hazard pictogram:

SDS No.: 153472 V001.18



Signal word:

Warning

Hazard statement:

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H411 Toxic 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.

P391 Collect spillage.

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
1,1'-(1,3-phenylene)bis-1H-pyrrole-2,5-dione	10- 30 %	Acute toxicity 4; Oral
3006-93-7		H302 Acute toxicity 2; Inhalation
		H330
		Skin sensitizer 1A
		H317 Acute hazards to the aquatic environment 3
		H402
		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
2/015-02-1		Skin sensitizer 1 H317
α, α-dimethylbenzyl hydroperoxide	1- 10 %	Flammable liquids 4
80-15-9		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
Silica, amorphous, fumed, crystfree 112945-52-5	1- 10 %	****
maleic acid 110-16-7	0.1- 1 %	Acute toxicity 4; Oral H302
110-10-7		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
N,N-Diethyl-p-toluidine	0.1- 1 %	Flammable liquids 4
613-48-9		H227 Acute toxicity 3; Oral
		H301
		Acute toxicity 3; Inhalation H331
		Acute toxicity 3; Dermal
		H311 Skin corrosion/irritation 2
		H315 Specific target organ toxicity - repeated exposure 2
		H373 Acute hazards to the aquatic environment 3 H402
		Chronic hazards to the aquatic environment 3 H412
N,N-dimethyl-o-toluidine 609-72-3	0.1- 1 %	Flammable liquids 4
1.609-77-3	i .	H227

SDS No.: 153472 V001.18

LOCTITE 620 RETAIN CMPND 1L

		A
		Acute toxicity 3; Oral H301
		Acute toxicity 3; Inhalation H331
		Acute toxicity 3; Dermal H311
		-
		Specific target organ toxicity - repeated exposure 2 H373
		Acute hazards to the aquatic environment 3
		H402
		Chronic hazards to the aquatic environment 3
		H412
Acetic acid, 2-phenylhydrazide	0.1- 1 %	Acute toxicity 4; Oral
114-83-0		H302
		Skin sensitizer 1
		H317
		Carcinogenicity 2
		H351
		Acute hazards to the aquatic environment 1
		H400
		Chronic hazards to the aquatic environment 1
		H410
1,4-Naphthalenedione	< 0.1 %	Acute toxicity 3; Oral
130-15-4		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

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

Indication of immediate medical attention and special treatment needed:

See section: Description of first aid measures

Section 5. Fire fighting measures

Suitable extinguishing media:

V001.18

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 (CO2) and nitrogen oxides (NOx) 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.

Avoid skin and eye contact.

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

See advice in section 8

Storage:

Refer to Technical Data Sheet.

Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

Particles (insoluble or poorly soluble) not otherwise specified, respirable particles 112945-52-5	Value type	Time Weighted Average (TWA):
	mg/m ³	3
	Remarks	ACGIH
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles 112945-52-5	Value type	Time Weighted Average (TWA):
	mg/m ³	10
	Remarks	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; >= 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.

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

Appearance: green
Liquid
Odor: characteristic
Odor threshold (CA): No data available.

pH: Not applicable, Product is non-polar/aprotic.

Melting point / freezing point: Not applicable, Product is a liquid

Specific gravity: 1.1

< 300 mbar

V001.18

SDS No.: 153472

Boiling point: $> 150 \, ^{\circ}\text{C} \, (> 302 \, ^{\circ}\text{F})$ > 100.00 °C (> 212 °F) Flash point:

No flash point up to 100 °C

Evaporation rate: No data available. Flammability (solid, gas): non flammable Lower explosive limit: No data available. **Upper explosive limit:** No data available. Vapor pressure: < 5 mm hg (; 27 °C (80.6 °F); 20 °C (68 °F); < 0.13 mbar 20 °C (68 °F)no method / method < 0.1 mbar unknown; 50 °C (122 °F))

Vapor density: > 1

Density: 1.16 g/cm3 Solubility: No data available. Partition coefficient: n-No data available.

octanol/water:

No data available. Auto ignition: **Decomposition temperature:** No data available. Viscosity: No data available.

VOC content: < 3 %

(2010/75/EC)

Section 10. Stability and reactivity

Reactivity/Incompatible materials:

Reaction with strong acids. Reacts with strong oxidants.

Chemical stability:

Stable under recommended storage conditions.

Conditions to avoid:

No decomposition if used according to specifications.

Hazardous decomposition products:

None if used for intended purpose.

Section 11. Toxicological information

General toxicological Prolonged or repeated contact may cause skin irritation.

information:

Oral toxicity: Acute toxicity estimate (ATE): > 2,000 mg/kg

Method: Calculation method

Inhalative toxicity:

Acute toxicity estimate (ATE): > 2,000 mg/kg **Dermal toxicity:**

Method: Calculation method

SDS No.: 153472 V001.18

LOCTITE 620 RETAIN CMPND 1L

Health Effects:

Ingestion: May cause gastrointestinal tract irritation if swallowed.

Skin: May cause allergic skin reaction.
Eyes: Causes serious eye irritation.
Inhalation: May cause respiratory irritation.
Symptoms of Overexposure: SKIN: Rash, Urticaria.
EYE: Irritation, conjunctivitis.

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

Acute oral toxicity:

1,1'-(1,3-phenylene)bis-1H-pyrrole-	Value type	Acute toxicity estimate (ATE)	
2,5-dione	Value	500 mg/kg	
3006-93-7	Species		
	Method	Expert judgement	
1,1'-(1,3-phenylene)bis-1H-pyrrole-	Value type	LD50	
2,5-dione	Value	> 300 - 2,000 mg/kg	
3006-93-7	Species	rat	
	Method	OECD Guideline 423 (Acute Oral toxicity)	
Methacrylic acid, monoester with	Value type	LD50	
propane-1,2-diol	Value	> 2,000 mg/kg	
27813-02-1	Species	rat	
	Method	OECD Guideline 401 (Acute Oral Toxicity)	
α, α-dimethylbenzyl hydroperoxide	Value type	LD50	
80-15-9	Value	382 mg/kg	
	Species	rat	
	Method	other guideline:	
Silica, amorphous, fumed, cryst	Value type	LD50	
free	Value	> 5,000 mg/kg	
112945-52-5	Species	rat	
	Method	OECD Guideline 401 (Acute Oral Toxicity)	
maleic acid	Value type	LD50	
110-16-7	Value	708 mg/kg	
	Species	rat	
	Method	not specified	
N,N-Diethyl-p-toluidine	Value type	Acute toxicity estimate (ATE)	
613-48-9	Value	100 mg/kg	
	Species		
	Method	Expert judgement	
N,N-dimethyl-o-toluidine	Value type	Acute toxicity estimate (ATE)	
609-72-3	Value	100 mg/kg	
	Species		
	Method	Expert judgement	
Acetic acid, 2-phenylhydrazide	Value type	LD50	
114-83-0	Value	310 mg/kg	
	Species	rat	
	Method	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)	
1,4-Naphthalenedione	Value type	LD50	
130-15-4	Value	124 mg/kg	
	Species	rat	
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)	

Acute inhalative toxicity:

1,1'-(1,3-phenylene)bis-1H-pyrrole-	Value type	LC50
2,5-dione	Value	0.055 mg/l
3006-93-7	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 403 (Acute Inhalation Toxicity)
α, α-dimethylbenzyl hydroperoxide	Value type	LC50
80-15-9	Value	1.370 mg/l
	Exposure time	4 h
	Species	rat
	Method	not specified
Silica, amorphous, fumed, cryst	Value type	LC0
free	Value	0.139 mg/l
112945-52-5	Exposure time	4 h
	Species	rat
	Method	not specified
N,N-Diethyl-p-toluidine	Value type	Acute toxicity estimate (ATE)
613-48-9	Value	3 mg/l
	Exposure time	
	Species	
	Method	Expert judgement
N,N-dimethyl-o-toluidine	Value type	Acute toxicity estimate (ATE)
609-72-3	Value	0.5 mg/l
	Exposure time	4 h
	Exposure time	4 Π
	Species	4 n
		Expert judgement
1,4-Naphthalenedione	Species	
1,4-Naphthalenedione 130-15-4	Species Method	Expert judgement
	Species Method Value type	Expert judgement LC50
	Species Method Value type Value	Expert judgement LC50 0.046 mg/l

Acute dermal toxicity:

Methacrylic acid, monoester with	Value type	LD50
propane-1,2-diol	Value	> 5,000 mg/kg
27813-02-1	Species	rabbit
	Method	not specified
α, α-dimethylbenzyl hydroperoxide	Value type	Acute toxicity estimate (ATE)
80-15-9	Value	1,100 mg/kg
	Species	
	Method	Expert judgement
Silica, amorphous, fumed, cryst	Value type	LD50
free	Value	> 2,000 mg/kg
112945-52-5	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
maleic acid	Value type	LD50
maleic acid 110-16-7	Value type Value	LD50 1,560 mg/kg
	Value	1,560 mg/kg
	Value Species	1,560 mg/kg rabbit
110-16-7	Value Species Method	1,560 mg/kg rabbit not specified
N,N-Diethyl-p-toluidine	Value Species Method Value type	1,560 mg/kg rabbit not specified Acute toxicity estimate (ATE)
N,N-Diethyl-p-toluidine	Value Species Method Value type Value	1,560 mg/kg rabbit not specified Acute toxicity estimate (ATE)
N,N-Diethyl-p-toluidine	Value Species Method Value type Value Species	1,560 mg/kg rabbit not specified Acute toxicity estimate (ATE) 300 mg/kg
N,N-Diethyl-p-toluidine 613-48-9	Value Species Method Value type Value Species Method	1,560 mg/kg rabbit not specified Acute toxicity estimate (ATE) 300 mg/kg Expert judgement
N,N-Diethyl-p-toluidine 613-48-9 N,N-dimethyl-o-toluidine	Value Species Method Value type Value Species Method Value type	1,560 mg/kg rabbit not specified Acute toxicity estimate (ATE) 300 mg/kg Expert judgement Acute toxicity estimate (ATE)

Skin corrosion/irritation:

1,1'-(1,3-phenylene)bis-1H-pyrrole-2,5-	Result	not corrosive
dione	Exposure time	60 min
3006-93-7	Species	Human, EpiDermTM SIT (EPI-200), Reconstructed Human
		Epidermis (RHE)
	Method	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed

		Human Epidermis (RHE) Test Method)
1,1'-(1,3-phenylene)bis-1H-pyrrole-2,5-	Result	not irritating
dione	Exposure time	60 min
3006-93-7	Species	Human, EpiDermTM SIT (EPI-200), Reconstructed Human Epidermis (RHE)
	Method	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
Methacrylic acid, monoester with	Result	not irritating
propane-1,2-diol	Exposure time	24 h
27813-02-1	Species	rabbit
	Method	Draize Test
α, α-dimethylbenzyl hydroperoxide	Result	corrosive
80-15-9	Exposure time	
	Species	rabbit
	Method	Draize Test
Silica, amorphous, fumed, crystfree	Result	not irritating
112945-52-5	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
maleic acid	Result	irritating
110-16-7	Exposure time	24 h
	Species	human
	Method	Patch Test
N,N-Diethyl-p-toluidine	Result	irritating
613-48-9	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Acetic acid, 2-phenylhydrazide	Result	not corrosive
114-83-0	Exposure time	100 001 001 0
	Species	Human, EpiSkinTM (SM), Reconstructed Human Epidermis (RHE)
	Method	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
Acetic acid, 2-phenylhydrazide	Result	not irritating
114-83-0	Exposure time	
	Species	Human, EpiSkinTM (SM), Reconstructed Human Epidermis (RHE)
	Method	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
1,4-Naphthalenedione	Result	Category 1C (corrosive)
130-15-4	Exposure time	Category 10 (conosive)
100 10 1	Species	rabbit
		I IAUUIL

Serious eye damage/irritation:

1,1'-(1,3-phenylene)bis-1H-pyrrole-2,5-	Result	not irritating
dione	Exposure time	
3006-93-7	Species	Bovine, cornea, in vitro test
	Method	OECD Guideline 437 (BCOP)
Methacrylic acid, monoester with	Result	Category 2B (mildly irritating to eyes)
propane-1,2-diol	Exposure time	
27813-02-1	Species	rabbit
	Method	Draize Test
Silica, amorphous, fumed, crystfree	Result	not irritating
112945-52-5	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
maleic acid	Result	highly irritating
110-16-7	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Acetic acid, 2-phenylhydrazide	Result	not irritating
114-83-0	Exposure time	
	Species	Chicken, eye, isolated
	Method	OECD Guideline 438 (Isolated Chicken Eye Test Method)

Respiratory or skin sensitization:

1,1'-(1,3-phenylene)bis-1H-pyrrole-	Result	not sensitising
2,5-dione	Test type	Mouse local lymphnode assay (LLNA)
3006-93-7	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Methacrylic acid, monoester with	Result	not sensitising
propane-1,2-diol	Test type	Mouse local lymphnode assay (LLNA)
27813-02-1	Species	mouse
	Method	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Methacrylic acid, monoester with	Result	sensitising
propane-1,2-diol	Test type	Guinea pig maximisation test
27813-02-1	Species	guinea pig
	Method	not specified
maleic acid	Result	sensitising
110-16-7	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
maleic acid	Result	sensitising
110-16-7	Test type	Mouse local lymphnode assay (LLNA)
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
Acetic acid, 2-phenylhydrazide	Result	positive
114-83-0	Test type	Direct peptide reactivity assay (DPRA)
	Species	cysteine and lysine, in chemico test
	Method	OECD Guideline 442C (Direct Peptide Reactivity Assay (DPRA))
Acetic acid, 2-phenylhydrazide	Result	positive
114-83-0	Test type	Activation of keratinocytes
	Species	human keratinocytes, in vitro test
	Method	OECD Guideline 442D (ARE-Nrf2 Luciferase Test Method)
Acetic acid, 2-phenylhydrazide	Result	positive
114-83-0	Test type	activation of dendritic cells
	Species	human monocytes, in vitro test
	Method	OECD Guideline 442E (H-CLAT: Human Cell Line Activation Test)
1,4-Naphthalenedione	Result	sensitising
130-15-4	Test type	not specified
	Species	guinea pig
	Method	not specified

Page 12 of 19

LOCTITE 620 RETAIN CMPND 1L

Germ cell mutagenicity:

In the component of t	1 11 /1 2 1 1 11 177	D 1:	
Methodic activation / Exposure time with and without	1,1'-(1,3-phenylene)bis-1H-	Result	negative
Method			bacterial reverse mutation assay (e.g Ames test)
1.1-(1.3-phenylene)his-1H- pyrrole-2.5-dione 3006-93-7 Method	3006-93-7	Metabolic activation / Exposure time	with and without
1.1-(1.3-phenylene)his-1H- pyrrole-2.5-dione 3006-93-7 Method		Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Type of study Route of administration with and without Method OECD Guideline 473 (in vitro Mammalian Chromosome aberration test Method OECD Guideline 473 (in vitro Mammalian Chromosome 3006-93-7 Method Service Method OECD Guideline 473 (in vitro Mammalian Chromosome 3006-93-7 Method	1 1'-(1 3-phenylene)bis-1H-	Result	
Metabolic activation / Exposure time			
Method OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) pyrole-2.5-dione 3006-93-7 Methods activation / Exposure time with propane-1,2-diol 2781-30-21 Methacylic acid, monoester with propane-1,2-diol 2781-30-21 Methacylic acid-withor Exposure time broad without mammalian cell gene mutation assay (e.g. Ames test) monose mammalian cell gene mutation assay (e.g. Ames test) monose mammalian cell gene mutation assay (e.g. Ames test)			
I.1-(1.3-phenylene)bis-IH- pymole-2-5-dione 3006-93-7 Methacylic acid, monoester with propane-1.2-diol 27813-02-1 Methacylic acityation / Exposure time with and without propagative with and without propagative with and without propagative mine with and without propagative with and without propag	3000 73 7		
1.1-(1.3phenylene)his-111- ype of study / Route of administration mammalian cell gene mutation assay		Method	
Type of study / Route of administration Methodic activation / Exposure time Methodic activation / Expo			/
Metabolic activation / Exposure time with and without Method OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) Description Method OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) Description De			
Methacrylic acid, monoester with propane-1,2-diol with propane-1,2-diol methacrylic acid, monoester with propane-1,2-diol acid, monoester with propane-1,2-diol methacrylic acid, monoester with pro			
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Methacrylic acid, monoester with propane-1,2-diol 27913-02-1 Methacrylic acid, monoester with propane-1,2-diol 27924-02-diol 27	3006-93-7	Metabolic activation / Exposure time	with and without
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Methacrylic acid, monoester with propane-1,2-diol 27913-02-1 Methacrylic acid, monoester with propane-1,2-diol 27924-02-diol 27		Method	OECD Guideline 476 (In vitro Mammalian Cell Gene
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Metabolic activation / Exposure time with propane-1,2-diol 27813-02-1 Metabolic activation / Exposure time with propane-1,2-diol 797813-02-1 Metabolic activation / Exposure time without without with propane-1,2-diol 797813-02-1 Metabolic activation / Exposure time with propane-1,2			
with propane-1,2-diol Methacrylic acid, monoester with propane-1,2-diol Z7813-02-1 Methacrylic acid, monoester with propane-1,2-diol Methacrylic a	Methacrylic acid monoester	Result	
Metabolic activation / Exposure time with and without DECD Guideline 471 (Bacterial Reverse Mutation Assay)			
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Methacrylic acid, monoester with propane-1,2-diol 27813-02-1			
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Type of study / Route of administration with and without Method Chromosome Abernation Test	2/813-02-1		
with propane-1,2-diol Metabolic activation / Exposure time Methacrylic acid, monoester with propane-1,2-diol Metabolic activation / Exposure time Methacrylic acid, monoester with propane-1,2-diol Metabolic activation / Exposure time Methacrylic acid, monoester with propane-1,2-diol Metabolic activation / Exposure time Methacrylic acid, monoester with propane-1,2-diol Methacrylic acid, monoeste			
Method	Methacrylic acid, monoester	Result	positive
Method	with propane-1,2-diol	Type of study / Route of administration	in vitro mammalian chromosome aberration test
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Type of study / Route of administration Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Method	27813-02-1		with and without
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Metabolic activation / Exposure time with propane-1,2-diol 27813-02-1 Metabolic activation / Exposure time with propane-1,2-diol 27813-02-1 Metabolic activation / Exposure time / Species Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Metabolic activation / Exposure time / Species Method OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) Metabolic activation / Exposure time / Species Method OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) Metabolic activation / Exposure time / Species Method OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) Metabolic activation / Exposure time / Species Drosophila melanogaster Drosophila melanogaster Drosophila melanogaster Method Drosophila melanogaster Dros			Chromosome Aberration Test
With propane-1,2-diol Zhigh of Study / Route of administration Metabolic activation / Exposure time Species Metabolic activation / Exposure time Species Metabolic activation / Exposure time Metabolic activation /	Mathagralia agid managtar		
Method Method OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)			
Method OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Result Type of study / Route of administration oral: gavage negative mouse Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Result Method OECD Guideline 474 (Mammalian Erythrocyte Micronacleus Test) Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Result Type of study / Route of administration oral: gavage Method ODECD Guideline 474 (Mammalian Erythrocyte Micronacleus Test) Method OFCD Guideline 474 (Mammalian Erythrocyte Micronacleus Test) A, α-dimethylbenzyl Apdroperoxide 80-15-9 Method Method OFCD Guideline 470 (Method OFCD Guideline 471 (Method OFCD Guidelin			
Mutation Test) Mut	2/813-02-1		
Methacrylic acid, monoester with propane-1,2-diol Result / Type of study / Route of administration / Exposure time / Metabolic activation / Exposure time / Species / Method negative / Micronucleus Text) Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Result / Result / Route of administration / Species / Method negative / Micronucleus Text) A, α-dimethylbenzyl hydroperoxide 80-15-9 Result / Route of administration / Exposure time / Species / Method Drosophila melanogaster / not specified / Netabolic activation / Exposure time / Species / Method Drosophila melanogaster / not specified / Netabolic activation / Exposure time / Species / not specified / not specified / Netabolic activation / Exposure time / Species / not specified / not spec		Method	OECD Guideline 476 (In vitro Mammalian Cell Gene
with propane-1,2-diol Type of study / Route of administration oral: gavage 27813-02-1 Metabolic activation / Exposure time mouse Method OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) Methacylic acid, monoester with propane-1,2-diol 27813-02-1 Result negative 27813-02-1 Type of study / Route of administration oral: gavage a, a-dimethylbenzyl hydropenxide Result positive byteroperoxide Method positive byteroperoxide Result positive byteroperoxide positive positive byteroperoxide			Mutation Test)
with propane-1,2-diol Type of study / Route of administration oral: gavage 27813-02-1 Metabolic activation / Exposure time mouse Method OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) Methacylic acid, monoester with propane-1,2-diol 27813-02-1 Result negative 27813-02-1 Type of study / Route of administration oral: gavage a, a-dimethylbenzyl hydropenxide Result positive byteroperoxide Method positive byteroperoxide Result positive byteroperoxide positive positive byteroperoxide	Methacrylic acid, monoester	Result	negative
Metabolic activation / Exposure time Species mouse		Type of study / Route of administration	
Method Species mouse Method OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)			oran garage
Method DECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Result Type of study / Route of administration Species Drosophila melanogaster 2, α-dimethylbenzyl hydroperoxide 80-15-9 Result Positive Method Dosophila melanogaster 80-15-9 Metabolic activation / Exposure time Method Dector Guideline 471 (Bacterial Reverse Mutation Assay) 80-15-9 Metabolic activation / Exposure time Method Dector Guideline 471 (Bacterial Reverse Mutation Assay) Silica, amorphous, fumed, cryst. free free 112945-52-5 Result negative Metabolic activation / Exposure time Method Dector Guideline 471 (Bacterial Reverse Mutation Assay) Silica, amorphous, fumed, cryst. free free 112945-52-5 Result negative Neuton of administration Metabolic activation / Exposure time Method Dector Guideline 471 (Bacterial Reverse Mutation Assay) (e.g Ames test) Silica, amorphous, fumed, cryst. free free 112945-52-5 Result negative Neuton of administration Neuton of administration Neuton Metabolic activation / Exposure time Method Neuton of administration Neuton Metabolic activation / Exposure time Neuton of administration Neuton of administration Neuton of adm	2,010 02 1		mouse
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Result Type of study / Route of administration on specified negative 27813-02-1 Metabolic activation / Exposure time Species Drosophila melanogaster A, a-dimethylbenzyl hydroperoxide 80-15-9 Result Pype of study / Route of administration Metabolic activation / Exposure time Metabolic activation / Exposure time Method Dosophila melanogaster Book 15-9 Metabolic activation / Exposure time Method Doscitive Dysitive Dysitiv			
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 Result Type of study / Route of administration oral: gavage oral: gavage 27813-02-1 Metabolic activation / Exposure time of Method positive α, α-dimethylbenzyl hydroperoxide 80-15-9 Result positive Drosophila melanogaster onto specified δ, α-dimethylbenzyl hydroperoxide 80-15-9 Result positive Without of administration of Exposure time of Method Without of American Jeverse mutation assay (e.g. Ames test) δ, α-dimethylbenzyl hydroperoxide 80-15-9 Result positive of administration of Exposure time of Species of		Method	
with propane-1,2-diol Metabolic activation / Exposure time Species Method not specified not specified without Metabolic activation / Exposure time Nest of Species Method not specified negative negative negative not specified n			/
Metabolic activation / Exposure time Species Drosophila melanogaster	Methacrylic acid, monoester		negative
Species Drosophila melanogaster	with propane-1,2-diol	Type of study / Route of administration	oral: gavage
Agecies Drosophila melanogaster Method not specified α, α-dimethylbenzyl Result positive 80-15-9 Metabolic activation / Exposure time without Δα, α-dimethylbenzyl Result negative hydroperoxide Result negative 80-15-9 Metabolic activation / Exposure time dermal 80-15-9 Metabolic activation / Exposure time mouse Species mouse Method not specified Silica, amorphous, fumed, cryst-free Result negative Type of study / Route of administration bacterial reverse mutation assay (e.g Ames test) Method not specified Silica, amorphous, fumed, cryst-free Result negative Type of study / Route of administration not specified Silica, amorphous, fumed, cryst-free Result negative Interest Result negative Free Metabolic activation / Exposure time DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro Metabolic activation / Exposure time DNA dam	27813-02-1	Metabolic activation / Exposure time	
α, α-dimethylbenzyl hydroperoxide Result Type of study / Route of administration bacterial reverse mutation assay (e.g Ames test) 80-15-9 Metabolic activation / Exposure time Method Method (Properoxide Boulden) Method (Properoxide Method (Properoxide Boulden) 80-15-9 Result (Properoxide Boulden) Result (Properoxide Boulden) Method (Properoxide Boulden) 80-15-9 Method (Properoxide Boulden) Method (Properoxide Boulden) Method (Properoxide Boulden) 80-15-9 Method (Properoxide Boulden) Method (Properoxide Boulden) Method (Properoxide Boulden) 80-15-9 Method (Properoxide Boulden) Method (Properoxide Boulden) Method (Properoxide Boulden) 80-15-9 Method (Properoxide Boulden) Method (Properoxide Boulden) Method (Properoxide Boulden) 80-15-9 Method (Properoxide Boulden) Metabolic activation / Exposure time Boulden, (Properoxiden) Method (Properoxiden) 80-15-9 Method (Properoxiden) Method (Properoxiden) Method (Properoxiden) 80-15-9 Method (Properoxiden) Method (Properoxiden) Method (Properoxiden) 80-16-12-9 Method (Properoxiden) Method (Properoxiden) Method (Properoxiden) 80-11-9 Method (Pro			Drosophila melanogaster
a, a-dimethylbenzyl hydroperoxide hydroperoxide hydroperoxide hydroperoxide 80-15-9 Result hetabolic activation / Exposure time without positive mutation assay (e.g Ames test) a, 15-9 Metabolic activation / Exposure time without without a, a-dimethylbenzyl hydroperoxide 80-15-9 Result negative 80-15-9 Metabolic activation / Exposure time process of the debolic activation / Exposure time process of the debolic activation / Exposure time process of the demolistration process of the demolist		•	
hydroperoxide 80-15-9 Metabolic activation / Exposure time without Method OECD Guideline 471 (Bacterial Reverse Mutation Assay) A. adimethylbenzyl hydroperoxide 80-15-9 Metabolic activation / Exposure time 9 Species mouse 112945-52-5 Method not specified 112945-52-5 Method not specifi	a a dimethylbenzyl		
80-15-9 Metabolic activation / Exposure time Method without α, α-dimethylbenzyl hydroperoxide 80-15-9 Result negative 80-15-9 Metabolic activation / Exposure time Species mouse mouse Silica, amorphous, fumed, cryst-free 112945-52-5 Result negative Silica, amorphous, fumed, cryst-free 12945-52-5 Result negative Silica,		1 11 11 1	
Method OECD Guideline 471 (Bacterial Reverse Mutation Assay) α, α-dimethylbenzyl hydroperoxide 80-15-9 Metabolic activation / Exposure time 5 pecies mouse 6 method not specified 7 per of study / Route of administration 6 method not specified 7 per of study / Route of administration 6 method not specified 7 per of study / Route of administration 6 method not specified 7 per of study / Route of administration 6 method not specified 7 per of study / Route of administration 6 method not specified 7 per of study / Route of administration 8 per of study / Route of administration 8 per of study / Route of administration 9 per of study / Route 0 per of study			
α, α-dimethylbenzyl hydroperoxide Result negative 80-15-9 Metabolic activation / Exposure time mouse Species mouse Method not specified Silica, amorphous, fumed, cryst-free Result negative 112945-52-5 Metabolic activation / Exposure time bacterial reverse mutation assay (e.g Ames test) Method not specified Silica, amorphous, fumed, cryst-free Result negative 112945-52-5 Metabolic activation / Exposure time in vitro mammalian chromosome aberration test Silica, amorphous, fumed, cryst-free Result negative Type of study / Route of administration pont specified Silica, amorphous, fumed, cryst-free Type of study / Route of administration DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro Metabolic activation / Exposure time mot specified maleic acid Result negative Type of study / Route of administration	00-13-9		
hydroperoxide 80-15-9 Retabolic activation / Exposure time mouse Metabolic activation / Exposure time mouse Method not specified Silica, amorphous, fumed, cryst- free Type of study / Route of administration bacterial reverse mutation assay (e.g Ames test) Silica, amorphous, fumed, cryst- free Metabolic activation / Exposure time Method not specified Silica, amorphous, fumed, cryst- free Type of study / Route of administration negative Silica, amorphous, fumed, cryst- free Metabolic activation / Exposure time Method not specified Silica, amorphous, fumed, cryst- free Metabolic activation / Exposure time Nethod not specified Metabolic activation / Exposure time Me			
Metabolic activation / Exposure time Species mouse mou	α, α-dimethylbenzyl	Result	negative
Species mouse Method not specified Silica, amorphous, fumed, cryst. free Type of study / Route of administration Metabolic activation / Exposure time Method not specified Type of study / Route of administration bacterial reverse mutation assay (e.g Ames test) Method not specified Silica, amorphous, fumed, cryst. free Type of study / Route of administration in vitro mammalian chromosome aberration test Method not specified Silica, amorphous, fumed, cryst. free Method not specified Type of study / Route of administration Synthesis in mammalian cells in vitro Metabolic activation / Exposure time Method not specified maleic acid 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 Result negative Type of study / Route of administration mammalian cell gene mutation assay Method Ames Test maleic acid Type of study / Route of administration mammalian cell gene mutation assay Method Ames Test maleic acid Type of study / Route of administration mammalian cell gene mutation assay Method Metabolic activation / Exposure time with and without	hydroperoxide	Type of study / Route of administration	dermal
Species Method not specified	80-15-9	Metabolic activation / Exposure time	
Silica, amorphous, fumed, cryst. freeResultnegative112945-52-5Metabolic activation / Exposure timebacterial reverse mutation assay (e.g Ames test)Silica, amorphous, fumed, cryst. freeResultnot specified112945-52-5Resultnegative112945-52-5Type of study / Route of administrationin vitro mammalian chromosome aberration test112945-52-5Metabolic activation / Exposure timenot specifiedSilica, amorphous, fumed, cryst. freeResultnegative112945-52-5Resultnegative112945-52-5Resultnegative112945-52-5Metabolic activation / Exposure timeNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro112945-52-6Metabolic activation / Exposure timenot specified110-16-7Resultnegative110-16-7Type of study / Route of administrationbacterial reverse mutation assay (e.g Ames test)110-16-7MethodAmes Testmaleic acidResultnegative110-16-7ResultnegativeType of study / Route of administrationmammalian cell gene mutation assay110-16-7Metabolic activation / Exposure timemammalian cell gene mutation assay			mouse
Silica, amorphous, fumed, cryst-free Type of study / Route of administration bacterial reverse mutation assay (e.g Ames test)			
free Type of study / Route of administration bacterial reverse mutation assay (e.g Ames test) Metabolic activation / Exposure time Method not specified Silica, amorphous, fumed, cryst-free Type of study / Route of administration in vitro mammalian chromosome aberration test Metabolic activation / Exposure time Method not specified Silica, amorphous, fumed, cryst-free Method not specified Silica, amorphous, fumed, cryst-free Method not specified Silica, amorphous, fumed, cryst-free Method not specified Method not specified Metabolic activation / Exposure time Method not specified maleic acid Result negative 110-16-7 Type of study / Route of administration Method not activation / Exposure time Nethod not specified maleic acid Result negative 110-16-7 Type of study / Route of administration Method Ames Test maleic acid Result negative 110-16-7 Type of study / Route of administration Method not ammmalian cell gene mutation assay Metabolic activation / Exposure time mammalian cell gene mutation assay Metabolic activation / Exposure time with and without Metabolic activation / Exposure time mammalian cell gene mutation assay Metabolic activation / Exposure time with and without	G''' 1 6 1 .		
Metabolic activation / Exposure time Method not specified	, 1		
Method not specified			bacterial reverse mutation assay (e.g Ames test)
Silica, amorphous, fumed, cryst free 112945-52-5 Metabolic activation / Exposure time Method Silica, amorphous, fumed, cryst free 112945-52-5 Silica, amorphous, fumed, cryst free 112945-52-5 Metabolic activation / Exposure time Type of study / Route of administration 112945-52-5 Metabolic activation / Exposure time Method Metho	112945-52-5	Metabolic activation / Exposure time	
free 112945-52-5		Method	not specified
free 112945-52-5	Silica, amorphous, fumed, cryst,-	Result	negative
Metabolic activation / Exposure time Port			
Method not specified Silica, amorphous, fumed, cryst free 112945-52-5 Metabolic activation / Exposure time Method not specified maleic acid 110-16-7 Metabolic activation / Exposure time Method not specified Type of study / Route of administration Metabolic activation / Exposure time Method not specified negative 110-16-7 Metabolic activation / Exposure time Method Ames Test maleic acid 110-16-7 Mesult negative 110-16-7 Metabolic activation / Exposure time no data Method Ames Test maleic acid 110-16-7 Metabolic activation / Exposure time negative 110-16-7 Metabolic activation / Exposure time with and without			in vitto intinimanti cinomosome abentation test
Silica, amorphous, fumed, cryst free Type of study / Route of administration 112945-52-5 Metabolic activation / Exposure time Method not specified maleic acid 110-16-7 Metabolic activation / Exposure time Type of study / Route of administration Metabolic activation / Exposure time Method not specified negative Type of study / Route of administration Metabolic activation / Exposure time Nethod Ames Test maleic acid 110-16-7 Metabolic activation / Exposure time Nethod Ames Test maleic acid 110-16-7 Metabolic activation / Exposure time Nethod Ames Test maleic acid 110-16-7 Metabolic activation / Exposure time Nethod Ames Test mammalian cell gene mutation assay Metabolic activation / Exposure time With and without	112)43 32 3		
free Type of study / Route of administration 2NA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro Metabolic activation / Exposure time Method not specified maleic acid Result negative 110-16-7 Type of study / Route of administration Method Ames Test maleic acid Result negative 110-16-7 Result negative 110-16-7 Type of study / Route of administration mammalian cell gene mutation assay Metabolic activation / Exposure time negative 110-16-7 Type of study / Route of administration mammalian cell gene mutation assay Metabolic activation / Exposure time with and without			
112945-52-5 Metabolic activation / Exposure time Method not specified maleic acid 110-16-7 Result negative 110-16-7 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 110-16-7 Type of study / Route of administration mammalian cell gene mutation assay Metabolic activation / Exposure time with and without			
Metabolic activation / Exposure time Method not specified maleic acid 110-16-7 Result negative 110-16-7 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 110-16-7 Type of study / Route of administration mammalian cell gene mutation assay Metabolic activation / Exposure time with and without		Type of study / Route of administration	
Method not specified maleic acid Result negative 110-16-7 Type of study / Route of administration bacterial reverse mutation assay (e.g Ames test) Metabolic activation / Exposure time Method no data Method Ames Test maleic acid Result negative 110-16-7 Type of study / Route of administration Method mammalian cell gene mutation assay Metabolic activation / Exposure time with and without	112945-52-5		synthesis in mammalian cells in vitro
Method not specified maleic acid Result negative 110-16-7 Type of study / Route of administration bacterial reverse mutation assay (e.g Ames test) Metabolic activation / Exposure time Method no data Method Ames Test maleic acid Result negative 110-16-7 Type of study / Route of administration Method mammalian cell gene mutation assay Metabolic activation / Exposure time with and without		Metabolic activation / Exposure time	
maleic acid 110-16-7 Type of study / Route of administration Metabolic activation / Exposure time Method Me			not specified
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	maleic acid		
Metabolic activation / Exposure time no data Method Ames Test maleic acid Result negative 110-16-7 Type of study / Route of administration mammalian cell gene mutation assay Metabolic activation / Exposure time with and without			
Method Ames Test maleic acid Result negative 110-16-7 Type of study / Route of administration mammalian cell gene mutation assay Metabolic activation / Exposure time with and without	110-10-/		
maleic acid 110-16-7 Result Type of study / Route of administration Metabolic activation / Exposure time megative mammalian cell gene mutation assay with and without			
Type of study / Route of administration mammalian cell gene mutation assay Metabolic activation / Exposure time with and without			Ames Test
Type of study / Route of administration mammalian cell gene mutation assay Metabolic activation / Exposure time with and without	maleic acid	Result	negative
Metabolic activation / Exposure time with and without			
Method Obec Guideline 470 (in vitto ivianinarian Cen Gene			

		Mutation Test)
Acetic acid, 2-phenylhydrazide	Result	positive
114-83-0	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)
Acetic acid, 2-phenylhydrazide	Result	negative
114-83-0	Type of study / Route of administration	::ttt
11.000	Type of study / Route of administration	in vitro mammalian cell micronucleus test
11.000	Metabolic activation / Exposure time	with and without
	21	

Repeated dose toxicity:

1,1'-(1,3-phenylene)bis-1H-	Result	NOAEL=15 mg/kg
pyrrole-2,5-dione	Route of application	oral: gavage
3006-93-7	Exposure time / Frequency of treatment	42-52 ddaily
	Species	rat
	Method	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Methacrylic acid, monoester	Result	NOAEL=300 mg/kg
with propane-1,2-diol	Route of application	oral: gavage
27813-02-1	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	Result	NOAEL=0.352 mg/l
with propane-1,2-diol	Route of application	inhalation
27813-02-1	Exposure time / Frequency of treatment	90 d6 h/d, 5 d/w
	Species	rat
	Method	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90- Day)
α, α-dimethylbenzyl	Result	
hydroperoxide	Route of application	inhalation: aerosol
80-15-9	Exposure time / Frequency of treatment	6 h/d5 d/w
	Species	rat
	Method	not specified
maleic acid	Result	NOAEL = > = 40 mg/kg
110-16-7	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)

Section 12. Ecological information

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

Ecotoxicity: H411 Toxic to aquatic life with long lasting effects.

Toxicity:

1,1'-(1,3-phenylene)bis-1H-pyrrole-	Value type	EC50
2,5-dione	Value	31.6 mg/l
3006-93-7	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1,1'-(1,3-phenylene)bis-1H-pyrrole-	Value type	ErC50
2,5-dione	Value	67.898 mg/l
3006-93-7	Acute Toxicity Study	Algae

	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC10
	Value	0.308 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Methacrylic acid, monoester with	Value type	LC50
propane-1,2-diol	Value	493 mg/l
27813-02-1	Acute Toxicity Study	Fish
	Exposure time	48 h
	Species	Leuciscus idus melanotus
	Method	DIN 38412-15
		EC50
propane-1,2-diol	Value	> 143 mg/l
27813-02-1	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Methacrylic acid, monoester with		EC50
propane-1,2-diol	Value type	> 97.2 mg/l
27813-02-1	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)
		EC10
	Value type	
propane-1,2-diol 27813-02-1	Value	1,140 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	16 h
	Species Method	
		not specified
α, α-dimethylbenzyl hydroperoxide 80-15-9		LC50
80-13-9	Value	3.9 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
		EC50
80-15-9	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)
	Value type	EC50
	Value	3.1 mg/l
80-15-9		
δU-13-9	Acute Toxicity Study	Algae
*****	Acute Toxicity Study Exposure time	Algae 72 h
	Acute Toxicity Study Exposure time Species	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus)
*****	Acute Toxicity Study Exposure time Species Method	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test)
	Acute Toxicity Study Exposure time Species Method Value type	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC
*****	Acute Toxicity Study Exposure time Species Method Value type Value	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l
	Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l Algae
	Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l Algae 72 h
	Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus)
	Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test)
α, α-dimethylbenzyl hydroperoxide	Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method Value type	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) EC10
	Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test)
α, α-dimethylbenzyl hydroperoxide	Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method Value type	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) EC10 70 mg/l Bacteria
α, α-dimethylbenzyl hydroperoxide 80-15-9	Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) EC10 70 mg/l Bacteria 30 min
α, α-dimethylbenzyl hydroperoxide 80-15-9	Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) EC10 70 mg/l Bacteria 30 min not specified
α, α-dimethylbenzyl hydroperoxide 80-15-9	Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) EC10 70 mg/l Bacteria 30 min
α, α-dimethylbenzyl hydroperoxide 80-15-9	Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species Method Value type Value Acute Toxicity Study Exposure time Species	Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) NOEC 1 mg/l Algae 72 h Desmodesmus subspicatus (reported as Scenedesmus subspicatus) OECD Guideline 201 (Alga, Growth Inhibition Test) EC10 70 mg/l Bacteria 30 min not specified

112945-52-5 maleic acid 110-16-7	Acute Toxicity Study Exposure time Species Method Value type	Fish 96 h Brachydanio rerio (new name: Danio rerio) OECD Guideline 203 (Fish, Acute Toxicity Test)
	Species Method	Brachydanio rerio (new name: Danio rerio)
	Method	
	· mac type	LC50
110,	Value	> 245 mg/l
İ	Acute Toxicity Study	Fish
	Exposure time	48 h
	Species	Leuciscus idus
	Method	DIN 38412-15
maleic acid	Value type	EC50
110-16-7	Value	42.81 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
1	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
maleic acid	Value type	EC50
110-16-7	Value	74.35 mg/l
	Acute Toxicity Study Exposure time	Algae 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	Value type	EC10
110-16-7	Value	44.6 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	18 h
	Species	Pseudomonas putida
	Method	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
N,N-Diethyl-p-toluidine	Value type	LC50
613-48-9	Value	78.62 mg/l
	Acute Toxicity Study	Fish 96 h
	Exposure time Species	96 h Danio rerio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
N,N-Diethyl-p-toluidine	Value type	EC50
613-48-9	Value	10.34 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
N,N-Diethyl-p-toluidine	Value type	EC50
613-48-9	Value	23.69 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
N,N-dimethyl-o-toluidine	Value type	LC50
609-72-3	Value	46 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species Method	Pimephales promelas OECD Guideline 203 (Fish, Acute Toxicity Test)
Agatic acid 2 phonythydrocide		EC50
Acetic acid, 2-phenylhydrazide 114-83-0	Value type Value	1.1 mg/l
114-83-0	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Acetic acid, 2-phenylhydrazide	Value type	EC50
114-83-0	Value	0.258 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	0.01 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
1,4-Naphthalenedione	Value type	LC50
130-15-4	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	Value type	EC50
130-15-4	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	Value type	NOEC
130-15-4	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	Value type	EC50
130-15-4	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:

1,1'-(1,3-phenylene)bis-1H-	Result	not readily biodegradable.
pyrrole-2,5-dione	Route of application	aerobic
3006-93-7	Degradability	0 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Methacrylic acid, monoester	Result	readily biodegradable
with propane-1,2-diol	Route of application	aerobic
27813-02-1	Degradability	94.2 %
	Method	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
α, α-dimethylbenzyl	Result	not readily biodegradable.
hydroperoxide	Route of application	aerobic
80-15-9	Degradability	3 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
maleic acid	Result	readily biodegradable
110-16-7	Route of application	aerobic
	Degradability	97.08 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
N,N-Diethyl-p-toluidine	Result	not readily biodegradable.
613-48-9	Route of application	not specified
	Degradability	1 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
N,N-dimethyl-o-toluidine	Result	not readily biodegradable.
609-72-3	Route of application	aerobic
	Degradability	1 %
	Method	other guideline:
Acetic acid, 2-phenylhydrazide	Result	not readily biodegradable.
114-83-0	Route of application	aerobic
	Degradability	39 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

1,4-Naphthalenedione	Result	not readily biodegradable.
130-15-4	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry
		Test)

Bioaccumulative potential / Mobility in soil:

1,1'-(1,3-phenylene)bis-1H-	LogPow	0.67
pyrrole-2,5-dione	Temperature	24 °C
3006-93-7	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Methacrylic acid, monoester	LogPow	0.97
with propane-1,2-diol	Temperature	20 °C
27813-02-1	Method	not specified
α, α-dimethylbenzyl	Bioconcentration factor (BCF)	9.1
hydroperoxide	Exposure time	
80-15-9	Species	calculation
	Temperature	
	Method	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
α, α-dimethylbenzyl	LogPow	1.6
hydroperoxide	Temperature	25 °C
80-15-9	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
maleic acid	LogPow	-1.3
110-16-7	Temperature	20 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
N,N-Diethyl-p-toluidine	LogPow	3.7
613-48-9	Temperature	
	Method	QSAR (Quantitative Structure Activity Relationship)
Acetic acid, 2-phenylhydrazide	LogPow	0.74
114-83-0	Temperature	
	Method	QSAR (Quantitative Structure Activity Relationship)
1,4-Naphthalenedione	LogPow	1.71
130-15-4	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:

Class: 9
Packing group: III
Classification code: M6
Hazard ident. number: 90
UN no.: 3082
Label: 9

Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S. (1-Acetyl-2-phenylhydrazine, Phenylenedimaleinimide)

Railroad transport RID:

Class: 9
Packing group: III
Classification code: M6
Hazard ident. number: 90
UN no.: 3082
Label: 9

Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S. (1-Acetyl-2-phenylhydrazine,Phenylenedimaleinimide)

Inland water transport ADN:

Class: 9
Packing group: III
Classification code: M6
Hazard ident. number: 90
UN no.: 3082
Label: 9

Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S. (1-Acetyl-2-phenylhydrazine,Phenylenedimaleinimide)

Marine transport IMDG:

 Class:
 9

 Packing group:
 III

 UN no.:
 3082

 Label:
 9

 EmS:
 F-A ,S-F

 Seawater pollutant:
 Marine pollutant

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S. (1-Acetyl-2-phenylhydrazine,Phenylenedimaleinimide)

Air transport IATA:

Class: 9
Packing group: III
Packaging instructions (passenger): 964
Packaging instructions (cargo): 964
UN no.: 3082
Label: 9

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (1-Acetyl-2-

phenylhydrazine,Phenylenedimaleinimide)

Further information for transport:

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), A197 (IATA), 2.10.2.7 (IMDG), NZ 4.3(10) may be applied, which can result in a deviation from the transport classification for packed goods.

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

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.

Dear Customer,

Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your_company.com).