

SAFETY DATA SHEET (SDS)



Manufacturer:
Covestro

Product Name:
Covestro DeSolite DP-1900 Primary Optical Fiber Coating, UV and LED Cure (10 kg)

Manufacturer Part Number:
COV-DP-1900-10KG

▶ [Click here for more details on the Covestro DeSolite DP-1900 Primary Optical Fiber Coating, UV and LED Cure \(10 kg\)](#)

Safety Data Sheet according to Regulation (EU) No. 1907/2006 as amended



DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

This document is formatted for A4 paper size

Data is subject to change without notice.

Contact the professionals at Fiber Optic Center for a quote or to get more details.

23 Centre Street • New Bedford, MA 02740 USA • focenter.com
508-992-6464 | (800) 473-4237 • sales@focenter.com





DeSolute DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

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

1.1 Product identifier

DESOLITE DP-1900

Material number: 86700891

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use:

UV-curable coatings, inks and matrix materials.

Uses advised against:

Consumer use

1.3 Details of the supplier of the safety data sheet

Covestro Deutschland AG
COV Global Product Safety
51365 Leverkusen

Tel.: +49 214 6009 8134
Email: ProductSafetyEMLA@covestro.com

1.4 Emergency telephone number

+1-703-527-3887 (Chemtrec)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Sensitization of the skin, Category 1 (H317)

Reproductive toxicity, Category 1B (H360Fd)

Specific target organ toxicity (repeated exposure), Category 2 (H373)

Chronically hazardous to the aquatic environment, Category 3 (H412)

2.2 Label elements



Hazardous components which must be listed on the label

2-phenoxyethyl acrylate
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
1-Vinylhexahydro-2H-azepin-2-one
3-Trimethoxysilylpropane-1-thiol
2,2-bis(acryloyloxymethyl)butyl acrylate
2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

Hazard statements:

H317 May cause an allergic skin reaction.

H360Fd May damage fertility. Suspected of damaging the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

P201 Obtain special instructions before use.

P260 Do not breathe mist or vapours.

P273 Avoid release to the environment.

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

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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

2.3 Other hazards

The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 1 %

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

Type of product: Mixture

3.2 Mixtures

optical fiber coatings

Hazardous components

2-phenoxyethyl acrylate

Concentration [wt.-%]: **>= 10 - < 20**

EC-No.: 256-360-6

REACH Registration Number: 01-2119980532-35-0014, 01-2119980532-35-0013

Classification (1272/2008/CE): Skin Sens. 1A H317 Repr. 2 H361d Aquatic Chronic 2 H411

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Concentration [wt.-%]: **>= 3 - < 5**

EC-No.: 278-355-8

CAS-No.: 75980-60-8

Classification (1272/2008/CE): Skin Sens. 1B H317 Repr. 1B H360Fd Aquatic Chronic 2 H411

1-Vinylhexahydro-2H-azepin-2-one

Concentration [wt.-%]: **>= 2,5 - < 3**

EC-No.: 218-787-6

CAS-No.: 2235-00-9

Classification (1272/2008/CE): Acute Tox. 4 Oral H302 Acute Tox. 4 Dermal H312 Eye Irrit. 2 H319 Skin Sens. 1B H317 STOT RE 1 H372 (Liver, Respiratory tract)

ATE (oral): 1.114 mg/kg

ATE (dermal): 1.700 mg/kg

3-Trimethoxysilylpropane-1-thiol

Concentration [wt.-%]: **>= 0,3 - < 1**

EC-No.: 224-588-5

CAS-No.: 4420-74-0

Classification (1272/2008/CE): Acute Tox. 4 Oral H302 Skin Sens. 1B H317 Aquatic Chronic 2 H411

ATE (oral): 741 mg/kg

2,2-bis(acryloyloxymethyl)butyl acrylate

Concentration [wt.-%]: **>= 0,3 - < 1**

Index-No.: 607-111-00-9

EC-No.: 239-701-3

REACH Registration Number: 01-2119489896-11-0025, 01-2119489896-11-0010

CAS-No.: 15625-89-5

Classification (1272/2008/CE): Skin Irrit. 2 H315 Eye Irrit. 2 H319 Skin Sens. 1 H317 Carc. 2 H351

Aquatic Acute 1 H400 Aquatic Chronic 1 H410

M-factor (acute aquat. tox.): 1

M-factor (chron. aquat. tox.): 1

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

Concentration [wt.-%]: $\geq 0,1$ - $< 0,25$

EC-No.: 251-336-1

CAS-No.: 33007-83-9

Classification (1272/2008/CE): Acute Tox. 4 Oral H302 Skin Sens. 1A H317 Aquatic Acute 1 H400 Aquatic Chronic 1 H410

M-factor (acute aquat. tox.): 1

M-factor (chron. aquat. tox.): 1

ATE (oral): 500 mg/kg

Candidate List of Substances of Very High Concern for Authorisation

This product contains substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 59).

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

CAS-No.: 75980-60-8

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: Take off all contaminated clothing immediately.

For effective first-aid, special training / education is needed.

If inhaled: Take the person into the fresh air and keep him warm, let him rest; if there is difficulty in breathing, medical advice is required. If unconscious, place in recovery position and seek medical advice. Oxygen or artificial respiration if needed. If breathing is irregular or stopped, administer artificial respiration. Keep respiratory tract clear. Consult a physician if necessary.

Inhalation may provoke the following symptoms: respiratory tract irritation coughing

In the case of hazardous fumes, wear self contained breathing apparatus.

In case of skin contact: In case of skin contact wash affected areas thoroughly with soap and plenty of water. Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Thoroughly clean shoes before reuse. Consult a doctor in the event of a skin reaction.

Most important symptoms Skin irritation Redness

In case of eye contact: In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Eye contact may provoke the following symptoms irritant effects eye redness

If swallowed: Do not induce vomiting without medical advice. Rinse mouth. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person.

If victim is conscious: Give small amounts of water to drink.

If accidentally swallowed obtain immediate medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Notes to physician: Treat symptomatically.

4.3 Indication of any immediate medical attention and special treatment needed

Therapeutic measures: No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Formation of carbon monoxide, carbon dioxide and other toxic gases in the event of fire or during thermal decomposition. Fire will produce dense black smoke containing hazardous combustion products (see section 10). In case of fire, may produce hazardous decomposition products such as: Acrylate monomers Aldehydes Organic acids

In the event of fire and/or explosion do not breathe fumes. Cool endangered vessels and containers with sprayed water. Heating raises pressure with consequent risk of bursting and explosion.

5.3 Advice for fire-fighters

Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters. Immediately evacuate personnel to safe areas.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel to safe areas. Avoid breathing mist or vapours. Put on protective equipment (see section 8). Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away. In case of insufficient ventilation, wear suitable respiratory equipment.

6.2 Environment related measures

Do not allow to escape into waterways, wastewater or soil. If the product contaminates rivers and lakes or drains inform respective authorities. Inform the responsible authorities in case of gas leakage, or of entry into waterways, soil or drains. Collect spillage. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Dispose of wastes in an approved waste disposal facility. Do not discharge large quantities of concentrated spills or residues into surface water or sanitary sewer system.

6.4 Reference to other sections

For personal protection see section 8. For further disposal measures see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For personal protection see section 8. Avoid contact with skin, eyes and clothing. Do not breathe mist or vapours. Do not ingest. Ensure adequate ventilation and, if necessary, exhaust ventilation when handling or

transferring the product. In case of insufficient ventilation, wear suitable respiratory equipment. The precautions required in the handling of acrylic acid esters must be taken. Do not re-use empty containers. Ground and bond containers and equipment before transferring to avoid static sparks.

Smoking, eating and drinking should be prohibited in the application area. Wash skin thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas.

Persons who suffer from skin complaints or other hypersensitivity reactions of skin should not work with the product.

The personal protective measures described in section 8 must be observed. Avoid contact with skin and eyes absolutely.

Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at end of work and use skin-protecting ointment. Keep working clothes separately. Change contaminated or soaked clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

Keep container dry and tightly closed in a cool and well ventilated place. Store in original container. Protect against heat and direct sunlight. Store locked up. When not in use, keep containers tightly closed. Keep in properly labelled containers. Use appropriate container to avoid environmental contamination. Polymerisation is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers. Inhibitor only effective in the presence of oxygen.

Storage class (TRGS 510) : 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

Recommended storage temperature: 15 - 30 °C

7.3 Specific end use(s)

UV-curable coatings, inks and matrix materials.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL)

2-phenoxyethyl acrylate

Value type	Route of exposure	Health Effects	Value	Remarks
Workers	Inhalation	Long-term systemic effects	12 mg/m3	Most sensitive endpoint: Repeated dose toxicity
Workers	Inhalation	Acute systemic effects		Hazard unknown (no further information necessary)
Workers	Inhalation	Long-term local effects	77 mg/m3	Most sensitive endpoint: Repeated dose toxicity
Workers	Inhalation	Acute local effects		Hazard unknown (no further information necessary)
Workers	Dermal	Long-term systemic effects	3,5 mg/kg bw/day	Most sensitive endpoint: Repeated dose toxicity
Workers	Dermal	Acute systemic effects		No hazard identified
Workers	Dermal	Long-term local effects		No hazard identified
Workers	Dermal	Acute local effects		High hazard (no threshold derived)

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

Workers	Eye contact	Local effects		No hazard identified
Consumers	Inhalation	Long-term systemic effects		No hazard identified
Consumers	Inhalation	Acute systemic effects		No hazard identified
Consumers	Inhalation	Long-term local effects		No hazard identified
Consumers	Inhalation	Acute local effects		No hazard identified
Consumers	Dermal	Long-term systemic effects		No hazard identified
Consumers	Dermal	Acute systemic effects		No hazard identified
Consumers	Dermal	Long-term local effects		No hazard identified
Consumers	Dermal	Acute local effects		No hazard identified
Consumers	Oral	Long-term systemic effects		No hazard identified
Consumers	Oral	Acute systemic effects		No hazard identified
Consumers	Eye contact	Local effects		No hazard identified

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Value type	Route of exposure	Health Effects	Value	Remarks
Workers	Inhalation	Long-term systemic effects	0,822 mg/m3	Most sensitive endpoint: Repeated dose toxicity oral
Workers	Inhalation	Acute systemic effects		No hazard identified
Workers	Inhalation	Long-term local effects		No hazard identified
Workers	Inhalation	Acute local effects		No hazard identified
Workers	Dermal	Long-term systemic effects	0,233 mg/kg bw/day	Most sensitive endpoint: Repeated dose toxicity oral
Workers	Dermal	Acute systemic effects		No hazard identified
Workers	Dermal	Long-term local effects		Medium hazard (no threshold derived) Most sensitive endpoint: Sensitisation (skin)
Workers	Dermal	Acute local effects		Medium hazard (no threshold derived) Most sensitive endpoint: Sensitisation (skin)
Workers	Eye contact	Local effects		No hazard identified
Consumers	Inhalation	Long-term systemic effects	0,145 mg/m3	Most sensitive endpoint: Repeated dose toxicity oral
Consumers	Inhalation	Acute systemic effects		No hazard identified
Consumers	Inhalation	Long-term local effects		No hazard identified
Consumers	Inhalation	Acute local effects		No hazard identified
Consumers	Dermal	Long-term systemic effects	0,0833 mg/kg bw/day	Most sensitive endpoint: Repeated dose toxicity oral
Consumers	Dermal	Acute systemic effects		No hazard identified

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

Consumers	Dermal	Long-term local effects		Medium hazard (no threshold derived) Most sensitive endpoint: Sensitisation (skin)
Consumers	Dermal	Acute local effects		Medium hazard (no threshold derived) Most sensitive endpoint: Sensitisation (skin)
Consumers	Oral	Long-term systemic effects	0,0833 mg/kg bw/day	Most sensitive endpoint: Repeated dose toxicity oral
Consumers	Oral	Acute systemic effects		No hazard identified
Consumers	Eye contact	Local effects		No hazard identified

1-Vinylhexahydro-2H-azepin-2-one

Value type	Route of exposure	Health Effects	Value	Remarks
Workers	Inhalation	Long-term systemic effects	4,9 mg/m3	Most sensitive endpoint: Repeated dose toxicity
Workers	Inhalation	Acute systemic effects		No hazard identified
Workers	Inhalation	Long-term local effects	0,17 mg/m3	Most sensitive endpoint: Repeated dose toxicity
Workers	Inhalation	Acute local effects		Low hazard (no threshold derived)
Workers	Dermal	Long-term systemic effects	0,7 mg/kg bw/day	Most sensitive endpoint: Repeated dose toxicity
Workers	Dermal	Acute systemic effects		Low hazard (no threshold derived)
Workers	Dermal	Long-term local effects		Medium hazard (no threshold derived) Most sensitive endpoint: Sensitisation (skin)
Workers	Dermal	Acute local effects		Medium hazard (no threshold derived) Most sensitive endpoint: Sensitisation (skin)
Workers	Eye contact	Local effects		Low hazard (no threshold derived)
Consumers	Inhalation	Long-term systemic effects	1,04 mg/m3	Most sensitive endpoint: Repeated dose toxicity
Consumers	Inhalation	Acute systemic effects		No hazard identified
Consumers	Inhalation	Long-term local effects	0,04 mg/m3	Most sensitive endpoint: Repeated dose toxicity
Consumers	Inhalation	Acute local effects		Low hazard (no threshold derived)
Consumers	Dermal	Long-term systemic effects	0,3 mg/kg bw/day	Most sensitive endpoint: Repeated dose toxicity
Consumers	Dermal	Acute systemic effects		Low hazard (no threshold derived)
Consumers	Dermal	Long-term local effects		Medium hazard (no threshold derived) Most sensitive endpoint: Sensitisation (skin)
Consumers	Dermal	Acute local effects		Medium hazard (no threshold derived) Most sensitive endpoint: Sensitisation (skin)
Consumers	Oral	Long-term systemic effects	0,33 mg/kg bw/day	Most sensitive endpoint: Repeated dose toxicity
Consumers	Oral	Acute systemic effects		Low hazard (no threshold derived)

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

Consumers	Eye contact	Local effects		Medium hazard (no threshold derived)
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2,2-bis(acryloyloxymethyl)butyl acrylate

Value type	Route of exposure	Health Effects	Value	Remarks
Workers	Inhalation	Long-term systemic effects	17,1 mg/m ³	Most sensitive endpoint: Repeated dose toxicity oral
Workers	Inhalation	Acute systemic effects		No hazard identified
Workers	Inhalation	Long-term local effects		Hazard unknown (no further information necessary)
Workers	Inhalation	Acute local effects		No hazard identified
Workers	Dermal	Long-term systemic effects	404 mg/kg bw/day	Most sensitive endpoint: Repeated dose toxicity oral
Workers	Dermal	Acute systemic effects		No hazard identified
Workers	Dermal	Long-term local effects		Medium hazard (no threshold derived) Most sensitive endpoint: Sensitization/irritation (skin)
Workers	Dermal	Acute local effects		Medium hazard (no threshold derived) Most sensitive endpoint: Sensitisation (skin)
Workers	Eye contact	Local effects		Low hazard (no threshold derived) Most sensitive endpoint: Irritation (eye)

Predicted No Effect Concentration (PNEC)**2-phenoxyethyl acrylate**

Compartment	Value	Remarks
Fresh water	0,002 mg/l	
Fresh water sediment	0,02 mg/kg dry weight	
Marine water	0,0002 mg/l	
Marine sediment	0,002 mg/kg dry weight	
Sewage treatment plant	1,77 mg/l	
Air		No hazard identified
Soil	0,006 mg/kg dry weight	
Oral		Does not bioaccumulate.
Intermittent use/release	0,012 mg/l	Fresh water

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Compartment	Value	Remarks
Fresh water	1,4 µg/l	
Fresh water sediment	0,115 mg/kg dry weight	
Marine water	0,14 µg/l	
Marine sediment	0,0115 mg/kg dry weight	
Sewage treatment plant		No hazard identified
Air		No hazard identified
Soil	0,0222 mg/kg dry weight	
Oral		Does not bioaccumulate.

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

Intermittent use/release	14 µg/l	Fresh water
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1-Vinylhexahydro-2H-azepin-2-one

Compartment	Value	Remarks
Fresh water	0,575 mg/l	
Fresh water sediment	4,77 mg/kg dry weight	
Marine water	0,058 mg/l	
Marine sediment	0,477 mg/kg dry weight	
Sewage treatment plant	262 mg/l	
Air		No hazard identified
Soil	0,615 mg/kg dry weight	
Oral		Does not bioaccumulate.
Intermittent use/release	1 mg/l	Fresh water

2,2-bis(acryloyloxymethyl)butyl acrylate

Compartment	Value	Remarks
Fresh water	0,00087 mg/l	
Fresh water sediment	0,017 mg/kg dry weight	
Marine water	0,000087 mg/l	
Marine sediment	0,002 mg/kg dry weight	
Sewage treatment plant	6,25 mg/l	
Air		No hazard identified
Soil	0,003 mg/kg dry weight	
Oral	10 mg/kg	
Intermittent use/release	0,0087 mg/l	Fresh water

8.2 Exposure controls**Appropriate engineering controls**

If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Respiratory protection

Respiratory protection required in insufficiently ventilated working areas and during spraying. Respirator with a gas filter

Hand protection

Protective gloves complying with EN 374.

Nitrile rubber: thickness $\geq 0,12\text{mm}$; Break through time: < 60 min

Contaminated and/or damaged gloves must be changed. Avoid natural rubber gloves. Do not wear PVC gloves, as PVC absorbs acrylates.

Eye protection

Safety glasses with side-shields Face-shield

Equipment should conform to EN 166

Skin and body protection

Use protective clothing (chemically resistant). Protective suit

Equipment should conform to EN 1149

Further protective measures

Wash face, hands and any exposed skin thoroughly after handling. Use appropriate degowning techniques to remove potentially contaminated clothing. Take off contaminated clothing and wash it before reuse. Ensure that eyewash stations and safety showers are close to the workstation location. Ultraviolet (UV) light source is used for curing this product. UV light can be hazardous to unprotected skin and eyes.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Physical state:	liquid at 20 °C at 1.013 hPa	
Appearance:	liquid	
Colour:	colourless	
Odour:	characteristic	
Odour Threshold:	not established	
pH:	not applicable	
Melting point/freezing point:	not established	
Boiling point/boiling range:	not established	
Flash point:	> 100 °C	closed cup
Evaporation rate:	not established	
Flammability (solid, gas):	not applicable	
Burning number:	not applicable	
Upper/lower flammability or explosive limits:	not established	
Vapour pressure:	not established	
Relative vapour density:	not established	
Density:	1,06 g/cm ³ at 20 °C	
Miscibility with water:	immiscible	
Water solubility:	not established	
Surface tension:	not established	
Partition coefficient (n-octanol/water):	not established	
Auto-ignition temperature:	not applicable	
Ignition temperature:	not established	
Decomposition temperature:	not established	
Heat of combustion:	not established	
Viscosity, dynamic:	6.500 mPa.s at 20 °C	
Viscosity, kinematic:	> 6132 cSt at 20 °C > 20,5 cSt at 40 °C	

9.2 Other information

The indicated values do not necessarily correspond to the product specification. Please refer to the technical information sheet for specification data.

Explosive properties:	not established
Dust explosion class:	not applicable
Oxidising properties:	not established

SECTION 10: Stability and reactivity**10.1 Reactivity**

None known.

10.2 Chemical stability

Stable under recommended storage conditions. The product is chemically stable.

10.3 Possibility of hazardous reactions

In case of heating risk of exothermic polymerisation. Strong exothermic reactions with peroxides may occur in presence of heavy metal ions. Polymerises readily unless inhibited.

10.4 Conditions to avoid

Keep away from heat and sources of ignition. Protect from frost.
Exposure to sunlight.
Inhibitor only effective in the presence of oxygen.

10.5 Incompatible materials

Exothermic reaction with: Strong acids and strong bases polymerisation initiators Avoid radical-forming starting agents, peroxides and reactive metals.

10.6 Hazardous decomposition products

No hazardous decomposition products when stored and handled correctly.

SECTION 11: Toxicological information

Toxicological studies on the product are not yet available.

Please find below the toxicological data available to us for the components (hazardous components).

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity, oral

ATEmix (oral): > 2.000 mg/kg
Method: Calculation method

2-phenoxyethyl acrylate

LD50 rat, male/female: > 5.000 mg/kg
Method: OECD Test Guideline 401

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

LD50 rat, male/female: > 5.000 mg/kg
Method: OECD Test Guideline 401

1-Vinylhexahydro-2H-azepin-2-one

LD50 rat, male/female: 1.114 mg/kg
Method: OECD Test Guideline 401

LD50 rat, male/female: 1.864 mg/kg

Method: OECD Test Guideline 401

3-Trimethoxysilylpropane-1-thiol

LD50 rat, male: 893 mg/kg
Method: OECD Test Guideline 401

LD50 rat, female: 741 mg/kg

Method: OECD Test Guideline 401

2,2-bis(acryloyloxymethyl)butyl acrylate

LD50 rat, male/female: 3.680 mg/kg

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

LD50 rat, female: 500 mg/kg
Method: OECD Test Guideline 423
Studies of a comparable product.

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

LD50 rat, female: > 1.000 - < 2.000 mg/kg

Method: OECD Test Guideline 423

Studies of a comparable product.

LD50 rat, female: > 815 - < 1.630 mg/kg

Method: OECD Test Guideline 423

Studies of a comparable product.

Acute toxicity, dermal

ATEmix (dermal): > 2.000 mg/kg

Method: Calculation method

2-phenoxyethyl acrylate

LD50 rat, male/female: > 2.000 mg/kg

Method: Regulation (EC) No. 440/2008, Annex, B.3

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

LD50 rat, male/female: > 2.000 mg/kg

Method: OECD Test Guideline 402

1-Vinylhexahydro-2H-azepin-2-one

LD50 rabbit, male/female: 1.700 mg/kg

Method: OECD Test Guideline 402

3-Trimethoxysilylpropane-1-thiol

LD50 rabbit, male/female: > 2.000 mg/kg

Method: OECD Test Guideline 402

2,2-bis(acryloyloxymethyl)butyl acrylate

LD50 rabbit: 5.170 mg/kg

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

Assessment: no data available

Study not required according to Regulation (EC) No. 1907/2006 (REACH).

Acute toxicity, inhalation

2-phenoxyethyl acrylate

Assessment: Study scientifically not justified.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

No data available.

1-Vinylhexahydro-2H-azepin-2-one

LC50 rat, male/female: > 1,6 mg/l, 8 h

Test atmosphere: vapour

Method: OECD Test Guideline 403

3-Trimethoxysilylpropane-1-thiol

rat, male/female:

Test atmosphere: vapour

Assessment: The substance or mixture has no acute inhalation toxicity

Method: OECD Test Guideline 403

An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

2,2-bis(acryloyloxymethyl)butyl acrylate

LC50 rat, male/female: 0,55 mg/l, 6 h

Test atmosphere: vapour

Assessment: The substance or mixture has no acute inhalation toxicity

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

LC50 rat, male/female: > 3.363 mg/m3, 4 h

Test atmosphere: vapour

Assessment: The substance or mixture has no acute inhalation toxicity

Method: OECD Test Guideline 403

Studies of a comparable product.

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

LC50 rat, male/female: > 2.700 mg/m³, 4 h

Assessment: The substance or mixture has no acute inhalation toxicity

Method: OECD Test Guideline 403

Studies of a comparable product.

Primary skin irritation

2-phenoxyethyl acrylate

Species: rabbit

Result: slight irritant

Classification: No skin irritation

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Species: rabbit

Result: slight irritant

Classification: No skin irritation

1-Vinylhexahydro-2H-azepin-2-one

Species: rabbit

Result: slight irritant

Classification: No skin irritation

Method: OECD Test Guideline 404

3-Trimethoxysilylpropane-1-thiol

Species: rabbit

Result: non-irritant

Classification: No skin irritation

Method: OECD Test Guideline 404

2,2-bis(acryloyloxymethyl)butyl acrylate

Species: rabbit

Result: irritating

Classification: Causes skin irritation.

Method: OECD Test Guideline 404

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

Species: rabbit

Result: slight irritant

Classification: No skin irritation

Method: OECD Test Guideline 404

Studies of a comparable product.

Primary mucosae irritation

2-phenoxyethyl acrylate

Species: rabbit

Result: slight irritant

Classification: No eye irritation

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Species: rabbit

Result: slight irritant

Classification: No eye irritation

1-Vinylhexahydro-2H-azepin-2-one

Species: rabbit

Result: irritating

Classification: Causes serious eye irritation.

Method: OECD Test Guideline 405

3-Trimethoxysilylpropane-1-thiol

Species: rabbit

Result: slight irritant

Classification: No eye irritation

Method: OECD Test Guideline 405

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

2,2-bis(acryloyloxymethyl)butyl acrylate

Species: rabbit

Result: irritating

Classification: Causes serious eye irritation.

Method: Draize Test

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

Species: rabbit

Result: slight irritant

Classification: No eye irritation

Method: OECD Test Guideline 405

Studies of a comparable product.

Sensitisation

2-phenoxyethyl acrylate

Skin sensitisation according to Magnusson/Kligmann (maximizing test):

Species: Guinea pig

Result: positive

Classification: May cause sensitization by skin contact (Sub cat. 1A)

Method: OECD Test Guideline 406

Respiratory sensitization

No data available.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Skin sensitization (local lymph node assay (LLNA)):

Species: Mouse

Result: positive

Classification: May cause sensitization by skin contact (Sub cat. 1B)

Method: OECD Test Guideline 429

Respiratory sensitization

No data available.

1-Vinylhexahydro-2H-azepin-2-one

Skin sensitization (local lymph node assay (LLNA)):

Species: Mouse

Result: positive

Classification: May cause sensitization by skin contact (Sub cat. 1B)

Method: OECD Test Guideline 429

Respiratory sensitization

No data available.

3-Trimethoxysilylpropane-1-thiol

Skin sensitisation according to Buehler (epicutaneous test):

Species: Guinea pig

Result: positive

Classification: May cause sensitization by skin contact (Sub cat. 1B)

Method: OECD Test Guideline 406

Respiratory sensitization

No data available.

2,2-bis(acryloyloxymethyl)butyl acrylate

Skin sensitisation:

Species: Guinea pig

Result: positive

Classification: May cause sensitization by skin contact.

Respiratory sensitization

No data available.

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

Skin sensitisation according to Magnusson/Kligmann (maximizing test):

Species: Guinea pig

Result: positive

Classification: May cause sensitization by skin contact (Sub cat. 1A)

Method: OECD Test Guideline 406

Respiratory sensitization

No data available.

Subacute, subchronic and prolonged toxicity

2-phenoxyethyl acrylate

NOAEL: 300 mg/kg

Application Route: Oral

Species: rat, male/female

Dose Levels: 0 - 100 - 300 - 800

Method: OECD Test Guideline 422

NOAEL: 350 mg/kg

Application Route: Oral

Species: rat, male/female

Method: OECD Test Guideline 408

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

NOAEL: 100 mg/kg bw/day

LOAEL (Lowest observable adverse effect level): 300 mg/kg bw/day

Application Route: Oral

Species: rat, male/female

Dose Levels: 0 - 100 - 300 - 1000 mg/kg bw/day

Method: OECD Test Guideline 408

NOAEL: 50 mg/kg bw/day

LOAEL (Lowest observable adverse effect level): 250 mg/kg bw/day

Application Route: Oral

Species: rat, male/female

Dose Levels: 0 - 50 - 250 - 750 mg/kg bw/day

1-Vinylhexahydro-2H-azepin-2-one

NOAEL: < 130 mg/kg bw/day

Application Route: Oral

Species: rat, male/female

Exposure duration: 90 d

Frequency of treatment: 5 days/week

Method: OECD Test Guideline 408

NOAEL: 40 mg/kg

Application Route: Oral

Species: rat, male/female

Dose Levels: 0 - 40 - 120 - 400 mg/kg bw/day

Frequency of treatment: daily

Target Organs: Liver

Assessment: Causes damage to organs through prolonged or repeated exposure.

Method: OECD Test Guideline 422

NOAEL: 10 ppm

LOAEL (Lowest observable adverse effect level): 32 ppm

Application Route: inhalation (vapour)

Species: rat, male/female

Dose Levels: 0 - 1 - 10 - 32 ppm

Exposure duration: 90 d

Frequency of treatment: 6 hours a day, 5 days a week

Method: OECD Test Guideline 413

NOAEL: 1 mg/m³

Application Route: inhalation (vapour)

Species: rat, male/female

Dose Levels: 0 - 1 - 6 - 58 - 173 mg/m³

Exposure duration: 28 d

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

Frequency of treatment: 5 days/week
Target Organs: Respiratory tract
Assessment: Causes damage to organs through prolonged or repeated exposure.
Method: OECD Test Guideline 412

3-Trimethoxysilylpropane-1-thiol
No data available.

2,2-bis(acryloyloxymethyl)butyl acrylate
NOAEL: 300 mg/kg
Application Route: Oral
Species: rat, male/female
Frequency of treatment: daily
Method: OECD Test Guideline 422

LOAEL (Lowest observable adverse effect level): 0,3 mg/kg
Application Route: Dermal
Species: rat, male/female
Exposure duration: 105 Weeks
Frequency of treatment: 5 days/week
Method: OECD Test Guideline 453

NOAEL: 0,3 mg/kg
Application Route: Dermal
Species: Mouse, male/female
Exposure duration: 105 Weeks
Frequency of treatment: 5 days/week
Method: OECD Test Guideline 453

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]
NOAEL: 50 mg/kg bw/day
Application Route: Oral
Species: rat, male/female
Frequency of treatment: daily
Method: OECD Test Guideline 408
Studies of a comparable product.

NOAEL: 40 mg/kg bw/day
Application Route: Oral
Species: rat, male/female
Method: OECD Test Guideline 407
Studies of a comparable product.

Carcinogenicity

2-phenoxyethyl acrylate
No data available.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
no data available

1-Vinylhexahydro-2H-azepin-2-one
No data available.

3-Trimethoxysilylpropane-1-thiol
No data available.

2,2-bis(acryloyloxymethyl)butyl acrylate
NOAEL (Toxicity): 50 mg/kg body weight/day
Species: Mouse, male
Application Route: Dermal
Exposure duration: 80 weeks
Frequency of treatment: 2 times/week

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]
No data available.

Reproductive toxicity/Fertility

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

2-phenoxyethyl acrylate

NOAEL (parents, generally toxicity): 100 mg/kg bw/day

NOAEL (parents, fertility): 300 mg/kg bw/day

Test type: Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity

Screening Test

Species: rat, male/female

Application Route: Oral

Dose Levels: 0 - 100 - 300 - 800 mg/kg bw/day

Method: OECD Test Guideline 422

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

NOAEL (parents, generally toxicity): 200 mg/kg bw/day

NOAEL (parents, fertility): 60 mg/kg bw/day

NOAEL (offspring): 200 mg/kg bw/day

Test type: One-generation study

Species: rat, male/female

Application Route: Oral

Dose Levels: 0 - 60 - 200 - 600 mg/kg bw/day

Frequency of treatment: daily

Method: OECD Test Guideline 421

1-Vinylhexahydro-2H-azepin-2-one

NOAEL (parents, generally toxicity): 40 mg/kg bw/day

NOAEL (parents, fertility): >400 mg/kg bw/day

NOAEL (offspring): 120 mg/kg bw/day

Test type: Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity

Screening Test

Species: rat, male/female

Application Route: Oral

Dose Levels: 0 - 40 - 120 - 400 mg/kg bw/day

Frequency of treatment: daily

Method: OECD Test Guideline 422

3-Trimethoxysilylpropane-1-thiol

No data available.

2,2-bis(acryloyloxymethyl)butyl acrylate

NOAEL - Parents: 300 mg/kg

NOAEL – F1: 300 mg/kg

Species: rat, male/female

Application Route: Oral

Frequency of treatment: daily

Method: OECD Test Guideline 422

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

No data available.

Reproductive toxicity/Developmental Toxicity/Teratogenicity

2-phenoxyethyl acrylate

NOAEL (teratogenicity): 600 mg/kg bw/day

NOAEL (maternal): 600 mg/kg bw/day

NOAEL (developmental toxicity): 600 mg/kg bw/day

Test type: Pre-/postnatal development

Species: rat

Application Route: Oral

Dose Levels: 0 - 65- 200 - 600 mg/kg bw/day

Method: OECD Test Guideline 414

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

NOAEL (teratogenicity): 150 mg/kg bw/day

NOAEL (maternal): 150 mg/kg bw/day

LOAEL (teratogenicity): 500 mg/kg bw/day

LOAEL (maternal): 500 mg/kg bw/day

Test type: Pre-/postnatal development

Species: rat, female

Application Route: Oral

Dose Levels: 0 - 50 - 150 - 500 mg/kg bw/day

Method: OECD Test Guideline 414

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

NOAEL (teratogenicity): >100 mg/kg bw/day
NOAEL (maternal): >100 mg/kg bw/day
LOAEL (developmental toxicity): 100 mg/kg bw/day
Test type: Pre-/postnatal development
Species: rabbit, female
Application Route: Oral
Dose Levels: 0 - 10 - 30 - 100 mg/kg bw/day
Method: OECD Test Guideline 414

1-Vinylhexahydro-2H-azepin-2-one
NOAEL (maternal): 20 mg/kg bw/day
NOAEL (developmental toxicity): 80 mg/kg bw/day
LOAEL (developmental toxicity): 240 mg/kg bw/day
Species: rat, female
Application Route: Oral
Frequency of treatment: daily
Method: OECD Test Guideline 414

3-Trimethoxysilylpropane-1-thiol
No data available.

2,2-bis(acryloyloxymethyl)butyl acrylate
NOAEL (teratogenicity): >= 130 mg/kg
NOAEL (maternal): >= 130 mg/kg
NOAEL (developmental toxicity): 130 mg/kg body weight/day
Species: rabbit, male and female
Application Route: Oral
Frequency of treatment: daily
Method: OECD Test Guideline 414

NOAEL (teratogenicity): >= 130 mg/kg
NOAEL (maternal): >= 130 mg/kg
NOAEL (developmental toxicity): 130 mg/kg body weight/day
Species: rabbit, male and female
Application Route: Oral
Frequency of treatment: daily
Method: OECD Test Guideline 414

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]
No data available.

Genotoxicity in vitro

2-phenoxyethyl acrylate
Test type: Ames test
Test system: Escherichia coli
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 471

Test type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 471

Test type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 476

Test type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 473

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Test type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 471

Test type: Ames test

Test system: Escherichia coli

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 471

Test type: Chromosome aberration test in vitro

Test system: Chinese hamster lung cells

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 473

Test type: Chromosome aberration test in vitro

Test system: Chinese hamster V79 cell line

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 476

1-Vinylhexahydro-2H-azepin-2-one

Test type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 471

Test type: Ames test

Test system: Escherichia coli

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 471

Test type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster fibroblasts

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 476

Test type: Chromosome aberration test in vitro

Test system: Chinese hamster fibroblasts

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 473

3-Trimethoxysilylpropane-1-thiol

Test type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 471

Test type: Ames test

Test system: Escherichia coli

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 471

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

Test type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 490

Test type: Chromosome aberration test in vitro
Test system: Chinese hamster V79 cell line
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 473

2,2-bis(acryloyloxymethyl)butyl acrylate
Test type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 471

Test type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 473

Test type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 476

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]
Test type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 471
Studies of a comparable product.

Test type: Ames test
Test system: Escherichia coli
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 471
Studies of a comparable product.

Test type: Chromosome aberration test in vitro
Test system: Chinese hamster lung cells
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 473
Studies of a comparable product.

Test type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 476
Studies of a comparable product.

Genotoxicity in vivo

2-phenoxyethyl acrylate
no data available

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
No data available.

1-Vinylhexahydro-2H-azepin-2-one
No data available.

3-Trimethoxysilylpropane-1-thiol
No data available.

2,2-bis(acryloyloxymethyl)butyl acrylate
Test type: In vivo micronucleus test
Species: Mouse, male/female
Application Route: Oral
Result: negative
Method: OECD Test Guideline 474

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]
No data available.

STOT evaluation – one-time exposure

2-phenoxyethyl acrylate
Based on available data, the classification criteria are not met.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
No data available.

1-Vinylhexahydro-2H-azepin-2-one
Based on available data, the classification criteria are not met.

3-Trimethoxysilylpropane-1-thiol
Based on available data, the classification criteria are not met.

2,2-bis(acryloyloxymethyl)butyl acrylate
Based on available data, the classification criteria are not met.

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]
Based on available data, the classification criteria are not met.

STOT evaluation – repeated exposure

2-phenoxyethyl acrylate
Based on available data, the classification criteria are not met.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
No data available.

1-Vinylhexahydro-2H-azepin-2-one
Target Organs: Liver, Respiratory tract
Causes damage to organs through prolonged or repeated exposure.

3-Trimethoxysilylpropane-1-thiol
No data available.

2,2-bis(acryloyloxymethyl)butyl acrylate
Based on available data, the classification criteria are not met.

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]
Based on available data, the classification criteria are not met.

Aspiration toxicity

2-phenoxyethyl acrylate
No data available.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
No data available.

1-Vinylhexahydro-2H-azepin-2-one
Based on available data, the classification criteria are not met.

3-Trimethoxysilylpropane-1-thiol
Based on available data, the classification criteria are not met.

2,2-bis(acryloyloxymethyl)butyl acrylate

Based on available data, the classification criteria are not met.

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

Based on available data, the classification criteria are not met.

CMR Assessment

2-phenoxyethyl acrylate

Carcinogenicity: Based on available data, the classification criteria are not met.

Mutagenicity: Based on available data, the classification criteria are not met.

Teratogenicity: Suspected of damaging the unborn child (Repr. 2).

Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Carcinogenicity: No data available.

Mutagenicity: Based on available data, the classification criteria are not met.

Teratogenicity: Suspected of damaging the unborn child (Repr. 2).

Reproductive toxicity/Fertility: May damage fertility (Repr. 1B).

1-Vinylhexahydro-2H-azepin-2-one

Carcinogenicity: No data available.

Mutagenicity: Based on available data, the classification criteria are not met.

Teratogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

3-Trimethoxysilylpropane-1-thiol

Carcinogenicity: No data available.

Mutagenicity: Based on available data, the classification criteria are not met.

Teratogenicity: No data available.

Reproductive toxicity/Fertility: No data available.

2,2-bis(acryloyloxymethyl)butyl acrylate

Carcinogenicity: Suspected of causing cancer (Carc. 2).

Mutagenicity: Based on available data, the classification criteria are not met.

Teratogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

Carcinogenicity: No data available.

Mutagenicity: Based on available data, the classification criteria are not met.

Teratogenicity: No data available.

Reproductive toxicity/Fertility: No data available.

Toxicology Assessment

2-phenoxyethyl acrylate

Acute effects: Based on available data, the classification criteria are not met.

Sensitization: May cause an allergic skin reaction.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Acute effects: Based on available data, the classification criteria are not met.

Sensitization: May cause an allergic skin reaction.

1-Vinylhexahydro-2H-azepin-2-one

Acute effects: Harmful if swallowed. Harmful in contact with skin. Causes serious eye irritation.

Sensitization: May cause an allergic skin reaction.

3-Trimethoxysilylpropane-1-thiol

Acute effects: Harmful if swallowed.

Sensitization: May cause an allergic skin reaction.

2,2-bis(acryloyloxymethyl)butyl acrylate

Acute effects: Causes skin irritation. Causes serious eye irritation.

Sensitization: May cause an allergic skin reaction.

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

Acute effects: Harmful if swallowed.

Sensitization: May cause an allergic skin reaction.

11.2 Information on other hazards

Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

Ecotoxicological studies of the product are not available.

Do not allow to escape into waterways, wastewater or soil.

Please find below the ecotoxicological data available to us for the components.

12.1 Toxicity

Acute Fish toxicity

2-phenoxyethyl acrylate

LC50 10 mg/l

Species: *Leuciscus idus* (Golden orfe)

Exposure duration: 96 h

Method: OECD Test Guideline 203

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

LC50 1,4 mg/l

Species: *Cyprinus carpio* (Carp)

Exposure duration: 96 h

Method: OECD Test Guideline 203

1-Vinylhexahydro-2H-azepin-2-one

LC50 318 mg/l

Species: *Danio rerio* (zebra fish)

Exposure duration: 96 h

Method: OECD Test Guideline 203

3-Trimethoxysilylpropane-1-thiol

LC50 439 mg/l

Species: *Danio rerio* (zebra fish)

Exposure duration: 96 h

Method: Regulation (EC) No. 440/2008, Annex, C.1

2,2-bis(acryloyloxymethyl)butyl acrylate

LC50 0,87 mg/l

Species: *Danio rerio* (zebra fish)

Exposure duration: 96 h

Method: OECD Test Guideline 203

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

LC50 0,624 mg/l

Species: *Oncorhynchus mykiss* (rainbow trout)

Exposure duration: 96 h

Method: OECD Test Guideline 203

Chronic Fish toxicity

2-phenoxyethyl acrylate

No data available.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

No data available.

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

1-Vinylhexahydro-2H-azepin-2-one
NOEC > 10 mg/l
Species: Danio rerio (zebra fish)
Exposure duration: 36 d
Method: OECD Test Guideline 210

3-Trimethoxysilylpropane-1-thiol
No data available.

2,2-bis(acryloyloxymethyl)butyl acrylate
No data available.

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]
No data available.

Acute toxicity for daphnia

2-phenoxyethyl acrylate
EC50 1,21 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: OECD Test Guideline 202

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
EC50 3,53 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: OECD Test Guideline 202

1-Vinylhexahydro-2H-azepin-2-one
EC50 > 100 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: OECD Test Guideline 202

3-Trimethoxysilylpropane-1-thiol
EC50 6,7 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: Regulation (EC) No. 440/2008, Annex, C.2

2,2-bis(acryloyloxymethyl)butyl acrylate
LC50 19,9 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: Regulation (EC) No. 440/2008, Annex, C.2

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]
EC50 > 0,72 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: OECD Test Guideline 202
Studies of a comparable product.

Chronic toxicity to daphnia

2-phenoxyethyl acrylate
EC10 0,1 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 21 d
Method: OECD Test Guideline 211
Studies of a comparable product.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
No data available.

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

1-Vinylhexahydro-2H-azepin-2-one
NOEC 5,75 mg/l
Species: *Daphnia magna* (Water flea)
Exposure duration: 21 d
Method: calculated

3-Trimethoxysilylpropane-1-thiol
No data available.

2,2-bis(acryloyloxymethyl)butyl acrylate
no data available

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]
No data available.

Acute toxicity for algae

2-phenoxyethyl acrylate
EC50 4,4 mg/l
Species: *Desmodesmus subspicatus* (Green algae)
Exposure duration: 72 h
Method: ISO 8692

EC10 0,71 mg/l
Species: *Desmodesmus subspicatus* (Green algae)
Exposure duration: 72 h
Method: ISO 8692

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
EC50 > 2,01 mg/l
Species: *Pseudokirchneriella subcapitata* (green algae)
Exposure duration: 72 h
Method: OECD Test Guideline 201

EC10 1,56 mg/l
Species: *Pseudokirchneriella subcapitata* (green algae)
Exposure duration: 72 h
Method: OECD Test Guideline 201

1-Vinylhexahydro-2H-azepin-2-one
EC50 > 100 mg/l
endpoint: Growth inhibition
Species: *Desmodesmus subspicatus* (green algae)
Exposure duration: 72 h

NOEC 25 mg/l
endpoint: Growth inhibition
Species: *Desmodesmus subspicatus* (Green algae)
Exposure duration: 72 h

3-Trimethoxysilylpropane-1-thiol
NOEC 40 mg/l
endpoint: Growth inhibition
Species: *Desmodesmus subspicatus* (Green algae)
Exposure duration: 72 h
Method: Regulation (EC) No. 440/2008, Annex, C.3

EC50 931 mg/l
endpoint: Growth inhibition
Species: *Desmodesmus subspicatus* (Green algae)
Exposure duration: 72 h
Method: Regulation (EC) No. 440/2008, Annex, C.3

2,2-bis(acryloyloxymethyl)butyl acrylate
ErC50 4,86 mg/l
Species: *scenedesmus subspicatus*
Exposure duration: 72 h
Method: OECD Test Guideline 201

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

EC50 18,8 mg/l

Species: *Desmodesmus subspicatus* (Green algae)

Exposure duration: 72 h

Method: Regulation (EC) No. 440/2008, Annex, C.3

EC10 1,9 mg/l

Species: *Desmodesmus subspicatus* (Green algae)

Exposure duration: 72 h

Method: Regulation (EC) No. 440/2008, Annex, C.3

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

EC50 > 0,55 mg/l

endpoint: Growth inhibition

Species: *Desmodesmus subspicatus* (Green algae)

Exposure duration: 72 h

Method: OECD Test Guideline 201

Studies of a comparable product.

EC10 > 0,55 mg/l

endpoint: Growth inhibition

Species: *Desmodesmus subspicatus* (Green algae)

Exposure duration: 72 h

Method: OECD Test Guideline 201

Studies of a comparable product.

Acute bacterial toxicity

2-phenoxyethyl acrylate

EC50 177 mg/l

Species: activated sludge

Method: OECD Test Guideline 209

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

EC50 > 1.000 mg/l

Species: activated sludge

Method: OECD Test Guideline 209

1-Vinylhexahydro-2H-azepin-2-one

EC50 622 mg/l

Species: *Pseudomonas putida*

Exposure duration: 16 h

Method: DIN 38412, part 8

3-Trimethoxysilylpropane-1-thiol

EC50 463 mg/l

Species: activated sludge

2,2-bis(acryloyloxymethyl)butyl acrylate

EC20 625 mg/l

Species: activated sludge

Exposure duration: 0,5 h

Method: ISO 8192

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

No data available.

Ecotoxicology Assessment

2-phenoxyethyl acrylate

Acute aquatic toxicity: Based on available data, the classification criteria are not met.

Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Acute aquatic toxicity: Based on available data, the classification criteria are not met.

Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

1-Vinylhexahydro-2H-azepin-2-one

Acute aquatic toxicity: Based on available data, the classification criteria are not met.

Chronic aquatic toxicity: Based on available data, the classification criteria are not met.

3-Trimethoxysilylpropane-1-thiol

Acute aquatic toxicity: Based on available data, the classification criteria are not met.

Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

2,2-bis(acryloyloxymethyl)butyl acrylate

Acute aquatic toxicity: Very toxic to aquatic life.

Chronic aquatic toxicity: Very toxic to aquatic life with long lasting effects.

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

Acute aquatic toxicity: Very toxic to aquatic life.

Chronic aquatic toxicity: Very toxic to aquatic life with long lasting effects.

M-Factor

2,2-bis(acryloyloxymethyl)butyl acrylate

M-factor (acute aquat. tox.): 1

M-factor (chron. aquat. tox.): 1

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

M-factor (acute aquat. tox.): 1

M-factor (chron. aquat. tox.): 1

12.2 Persistence and degradability

Biodegradability

2-phenoxyethyl acrylate

Test type: aerobic

Inoculum: Sewage sludge

Biodegradation: 22 %, 28 d, i.e. readily biodegradable

Method: OECD Test Guideline 301 D

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Test type: aerobic

Inoculum: activated sludge, non-adapted

Biodegradation: 0 - 10 %, 28 d, i.e. not readily degradable

Method: OECD Test Guideline 301 F

1-Vinylhexahydro-2H-azepin-2-one

Test type: aerobic

Inoculum: activated sludge

Biodegradation: 30 - 40 %, 28 d, i.e. not readily degradable

Method: OECD Test Guideline 301 A

3-Trimethoxysilylpropane-1-thiol

Test type: aerobic

Inoculum: activated sludge

Biodegradation: 51 %, 28 d, i.e. not readily degradable

Method: Regulation (EC) No. 440/2008, Annex, C.4-A

2,2-bis(acryloyloxymethyl)butyl acrylate

Test type: aerobic

Inoculum: activated sludge

Biodegradation: 82 - 90 %, 28 d, i.e. readily biodegradable

Method: OECD Test Guideline 301 B

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

Test type: aerobic

Inoculum: Sewage sludge

Biodegradation: 9,1 %, 28 d, i.e. not readily degradable

Method: OECD Test Guideline 301 D

Test type: aerobic

Inoculum: Sewage sludge

Biodegradation: 3,2 %, 28 d, i.e. not readily degradable

Method: OECD Test Guideline 301 F

12.3 Bioaccumulative potential

Bioaccumulation

2-phenoxyethyl acrylate

Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Bioconcentration factor (BCF): 18 - 22

Species: Cyprinus carpio (Carp)

Exposure duration: 8 Weeks

1-Vinylhexahydro-2H-azepin-2-one

No bioaccumulation is to be expected ($\log Pow \leq 4$).

3-Trimethoxysilylpropane-1-thiol

no data available

2,2-bis(acryloyloxymethyl)butyl acrylate

Bioconcentration factor (BCF): 123

Method: (calculated)

Accumulation in aquatic organisms is unlikely.

2-Ethyl-2-[(3-mercapto-1-oxopropoxy)methyl]propane-1,3-diyl bis[3-mercaptopropionate]

no data available

Partition coefficient (n-octanol/water)

2-phenoxyethyl acrylate

 $\log Pow$: 2,58**12.4 Mobility in soil**

No data available.

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

The product contains none organically bound halogens.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. Reference number 2008/98/EC

Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used. The classification of the product may meet the criteria for a hazardous waste. Offer surplus and non-recyclable solutions to a licensed disposal company. Do not dispose of waste into sewer.

13.1 Waste treatment methods

After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Empty containers retain residue and can be dangerous. Containers must be recycled in compliance with national legislation and environmental regulations. Dispose of empty containers and wastes safely. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Where possible recycling is preferred to disposal or incineration.

No disposal into waste water.

SECTION 14: Transport information**ADR/RID**

14.1 UN number or ID number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

ADN

14.1 UN number or ID number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

Dangerous goods classification for inland waterways tanker by request only.

IATA

14.1 UN number or ID number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

IMDG

14.1 UN number or ID number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

14.6 Special precautions for user

See section 6 - 8.

Additional information	:	Not dangerous cargo. Keep away from foodstuffs, acids and alkalis.
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14.7 Maritime transport in bulk according to IMO instruments

Product is not transported by us in bulk.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Candidate List of Substances of Very High Concern for Authorisation**

This product contains substances identified as SVHC according to REACH Regulation (EC) no. 1907/2006, Article 59. Please refer to section 3.

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances.
not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)

Conditions of restriction for the following entries should be considered: 3

This product contains substances subject to EU Regulation 1907/2006 (REACH), Annex XVII.

1-Vinylhexahydro-2H-azepin-2-one
CAS-No.: 2235-00-9, EC-No.: 218-787-6
Subject to REACH Annex XVII, No. 3

DeSolite DP-1900

Version 3.0

Revision Date 20.08.2025

Print Date 22.08.2025

TA Luft List (Germany)

Type: 5.2.4 Inorganic substances in gaseous form
portion Class 3: < 0,01 %

Type: 5.2.5 Organic Substances
portion Class 1: 20,45 %

Fraction of other substances: 79,36 %

Type: 5.2.7.1.1 Carcinogenic substance
portion Class 1: < 0,01 %

portion Class 3: < 0,01 %

Water contaminating class (Germany)

2 obviously hazardous to water
Classification according to AwSV, Annex 1 (5.2)

Other regulations

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

The product is subject to the supply restrictions of the German Ordinance on the Prohibition of Chemicals

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for:

2,2-bis(acryloyloxymethyl)butyl acrylate

SECTION 16: Other information

Full text of the hazard statements of the CLP classification (1272/2008/CE) referred to under sections 2, 3 and 10.

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H360Fd	May damage fertility. Suspected of damaging the unborn child.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Abbreviations and acronyms

ADN	Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation intérieure
ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials (US)
ATE	Acute Toxic Estimate
AwSv	Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen
BCF	Bioconcentration Factor
CAS	Chemical Abstract Service
CLP	Regulation on Classification, Labelling and Packaging of Substances and Mixtures
CMR	Cancerogenic Mutagenic Reprotoxic
DIN	Deutsches Institut für Normung
DNEL	Derived No-Effect Level
EC...	Effect Concentration ... %
EWC	European Waste Catalogue
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LOAEL	Lowest Observable Adverse Effect Level
LC...	Lethal Concentration, ...%
LD...	Lethal Dose, ...%
MARPOL	International Convention for the Prevention of Pollution From Ships
NOAEL	No Observed Adverse Effect Level
NOEL/NOEC	No Observed Effect Level/Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire de marchandises Dangereuses
STOT	Specific Target Organ Toxicity
TRGS	Technische Regeln für Gefahrstoffe
vPvB	very Persistent, very Bioaccumulative
WGK	Wassergefährdungsklasse

Relevant changes since the last version are highlighted in the margin. This version replaces all previous versions.

Further information

Classification of the mixture:

Skin Sens. 1 H317

II Repr. 1B H360Fd

STOT RE 2 H373

Aquatic Chronic 3 H412

Classification procedure:

Calculation method

Calculation method

Calculation method

Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.