

Safety Data Sheet

according to UK REACH Regulation

ORALITE® 5019i red (030)

Revision date: 03.04.2023

Product code: 2000067

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

ORALITE® 5019i red (030)

Further trade namesORALITE® 5019i UV Digital Printing Ink - 750 ml
red (030)

UFI: JK66-D0QD-2001-JUAH

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Colour (UV Digital Printing Ink). Reserved for industrial and professional use.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

| | | |
|-----------------|---------------------|----------------------------|
| Company name: | ORAFOL Europe GmbH | |
| | Germany | |
| Street: | Orafolstraße 1 | |
| Place: | D-16515 Oranienburg | |
| Telephone: | + 49 3301 864 0 | Telefax: + 49 3301 864 100 |
| e-mail: | msds@orafol.de | |
| Contact person: | EHSQ Department | |
| Internet: | www.orafol.com | |

1.4. Emergency telephone number:

National Poison Information Service: In case of a medical emergency following exposure to a chemical, the public should call NHS Direct in England or Wales 0845 46 47 or NHS 24 in Scotland 08454 24 24 24 (UK only).

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****GB CLP Regulation**Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317
Carc. 2; H351
Repr. 2; H361fd
STOT RE 1; H372
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

Organs affected: liver, Respiratory tract

2.2. Label elements**GB CLP Regulation**

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Hazard components for labelling

(5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate
 2-Phenoxyethyl acrylate
 N-Vinylcaprolactam
 Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate)
 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
 2-Isopropyl-9H-thioxanthen-9-one
 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
 Ethoxylated phenyl acrylate
 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate
 Oxybis(methyl-2,1-ethanediyl) diacrylate

Signal word: Danger

Pictograms:

Hazard statements

| | |
|--------|--|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H351 | Suspected of causing cancer. |
| H361fd | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statements

| | |
|-----------|---|
| P201 | Obtain special instructions before use. |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients
3.2. Mixtures

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Hazardous components

| CAS No | Chemical name | | | Quantity |
|-------------|---|--------------|------------------|------------|
| | EC No | Index No | REACH No | |
| | Classification (GB CLP Regulation) | | | |
| 66492-51-1 | (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate | | | 25 - <50% |
| | 266-380-7 | | 01-2119976303-36 | |
| | Skin Irrit. 2, Skin Sens. 1B, Aquatic Chronic 2; H315 H317 H411 | | | |
| 48145-04-6 | 2-Phenoxyethyl acrylate | | | 10 - <25% |
| | 256-360-6 | | 01-2119980532-35 | |
| | Repr. 2, Skin Sens. 1A, Aquatic Chronic 2; H361d H317 H411 | | | |
| 2235-00-9 | N-Vinylcaprolactam | | | 10 - <20% |
| | 218-787-6 | | 01-2119977109-27 | |
| | Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2, Skin Sens. 1B, STOT RE 1; H312 H302 H319 H317 H372 | | | |
| 5888-33-5 | Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) | | | 5 - <10% |
| | 227-561-6 | | 01-2119957862-25 | |
| | Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1B, STOT SE 3, Aquatic Chronic 2; H315 H319 H317 H335 H411 | | | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | 5 - <10% |
| | 278-355-8 | 015-203-00-X | 01-2119972295-29 | |
| | Repr. 2, Skin Sens. 1B, Aquatic Chronic 2; H361f H317 H411 | | | |
| 5495-84-1 | 2-Isopropyl-9H-thioxanthen-9-one | | | 1 - <5% |
| | 226-827-9 | | 01-2120769513-49 | |
| | Repr. 2, Aquatic Acute 1, Aquatic Chronic 1; H361f H400 H410 | | | |
| 162881-26-7 | phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | | | 1 - <5% |
| | 423-340-5 | 015-189-00-5 | 01-2119489401-38 | |
| | Skin Sens. 1A, Aquatic Chronic 4; H317 H413 | | | |
| 56641-05-5 | Ethoxylated phenyl acrylate | | | 2,5 - <5% |
| | 500-133-9 | | 01-2120752382-57 | |
| | Skin Sens. 1, Aquatic Chronic 2; H317 H411 | | | |
| 122-99-6 | 2-phenoxyethanol | | | 1 < 3% |
| | 204-589-7 | 603-098-00-9 | 01-2119488943-21 | |
| | Acute Tox. 4, Eye Dam. 1, STOT SE 3; H302 H318 H335 | | | |
| 15625-89-5 | 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate | | | 1 - <2,5% |
| | 239-701-3 | 607-111-00-9 | 01-2119489896-11 | |
| | Carc. 2, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 1; H351 H315 H319 H317 H400 H410 | | | |
| 105-60-2 | epsilon-caprolactam | | | 0,01 - <1% |
| | 203-313-2 | 613-069-00-2 | 01-2119457029-36 | |
| | Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H332 H302 H315 H319 H335 | | | |
| 57472-68-1 | Oxybis(methyl-2,1-ethanediy) diacrylate | | | 0,1 - <1% |
| | 260-754-3 | | 01-2119484629-21 | |
| | Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1; H315 H318 H317 | | | |
| 128-37-0 | 2,6-Di-tert-butyl-p-kresol | | | 0,25 - <1% |
| | 204-881-4 | | 01-2119565113-46 | |
| | Aquatic Acute 1, Aquatic Chronic 1; H400 H410 | | | |

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| | | | | |
|----------|---|--------------|------------------|-------|
| 556-67-2 | octamethylcyclotetrasiloxane | | | <0,1% |
| | 209-136-7 | 014-018-00-1 | 01-2119529238-36 | |
| | Flam. Liq. 3, Repr. 2, Aquatic Chronic 1; H226 H361f H410 | | | |

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|-------------|-----------|--|--------------|
| | | Specific Conc. Limits, M-factors and ATE | |
| 66492-51-1 | 266-380-7 | (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate | 25 - <50% % |
| | | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg | |
| 48145-04-6 | 256-360-6 | 2-Phenoxyethyl acrylate | 10 - <25% % |
| | | oral: LD50 = 5000 mg/kg | |
| 2235-00-9 | 218-787-6 | N-Vinylcaprolactam | 10 - <20% % |
| | | dermal: LD50 = 1700 mg/kg; oral: LD50 = 1114 mg/kg | |
| 5888-33-5 | 227-561-6 | Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) | 5 - <10% % |
| | | dermal: LD50 = > 3000 mg/kg; oral: LD50 = 5750 mg/kg | |
| 75980-60-8 | 278-355-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 5 - <10% % |
| | | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg | |
| 5495-84-1 | 226-827-9 | 2-Isopropyl-9H-thioxanthen-9-one | 1 - <5% % |
| | | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg | |
| 162881-26-7 | 423-340-5 | phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | 1 - <5% % |
| | | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg | |
| 122-99-6 | 204-589-7 | 2-phenoxyethanol | 1 < 3% % |
| | | dermal: LD50 = > 2214 mg/kg; oral: ATE 1394 mg/kg | |
| 15625-89-5 | 239-701-3 | 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate | 1 - <2,5% % |
| | | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg Aquatic Acute 1; H400: M=1 Aquatic Chronic 1; H410: M=1 | |
| 105-60-2 | 203-313-2 | epsilon-caprolactam | 0,01 - <1% % |
| | | inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 1475 mg/kg | |
| 57472-68-1 | 260-754-3 | Oxybis(methyl-2,1-ethanediyl) diacrylate | 0,1 - <1% % |
| | | dermal: LD50 = > 2000 mg/kg; oral: LD50 = 3530 mg/kg | |
| 128-37-0 | 204-881-4 | 2,6-Di-tert-butyl-p-kresol | 0,25 - <1% % |
| | | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 6000 mg/kg | |
| 556-67-2 | 209-136-7 | octamethylcyclotetrasiloxane | <0,1% % |
| | | inhalation: LC50 = 12,17 mg/l (vapours); dermal: Data lacking; oral: LD50 = > 4800 mg/kg Aquatic Chronic 1; H410: M=10 | |

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary. In case of skin reactions, consult a physician.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove contact lenses, if present and easy to do. Continue rinsing.

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After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Remove casualty to fresh air and keep warm and at rest. Where appropriate artificial ventilation.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings. Carbon dioxide (CO₂), Extinguishing powder, Foam.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Non-flammable. In case of fire may be liberated: Gases/vapours, harmful

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Immediately remove any contaminated clothing, shoes or stockings.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

For non-emergency personnel

Use personal protection equipment.

For emergency responders

Use personal protection equipment. The danger areas must be delimited and identified using relevant warning and safety signs. First aider: Pay attention to self-protection!

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Collect spillage. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin. Avoid contact with eyes. Use personal protection equipment.

Swiss Maternity Protection Ordinance (SR 822.111.52): Pregnant women and nursing mothers are only allowed to get in contact with or be exposed to this preparation in the course of their work when it is established on the basis of a risk assessment by a specialist, that in context with the activities and the protection measures applied, exposure does no harm to mother and child.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. The type of personal protection equipment has to be chosen based on the concentration and amount of the dangerous substance at the workplace.

Further information on handling

Use extractor hood (laboratory). When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations.

Hints on joint storage

Do not store together with: Organic peroxides and self-reactive substances, Explosives.

7.3. Specific end use(s)

Colour. Reserved for industrial and professional use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|----------|-----------------------------------|-----|-------------------|-----------|---------------|--------|
| 105-60-2 | 1,6-Hexanolactam, dust and vapour | - | 10 | | TWA (8 h) | WEL |
| | | - | 20 | | STEL (15 min) | WEL |
| 128-37-0 | 2,6-Di-tert-butyl-p-cresol | - | 10 | | TWA (8 h) | WEL |

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DNEL/DMEL values

| CAS No | Substance | Exposure route | Effect | Value |
|--------------------------|--|----------------|----------|-------------------------|
| 66492-51-1 | (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate | | | |
| 48145-04-6 | 2-Phenoxyethyl acrylate | | | |
| Worker DNEL, long-term | | inhalation | systemic | 12 mg/m ³ |
| Worker DNEL, long-term | | inhalation | local | 77 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 3,5 mg/kg bw/day |
| 2235-00-9 | N-Vinylcaprolactam | | | |
| Worker DNEL, long-term | | inhalation | systemic | 4,9 mg/m ³ |
| Worker DNEL, long-term | | inhalation | local | 0,17 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 0,7 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 1,04 mg/m ³ |
| Consumer DNEL, long-term | | inhalation | local | 0,04 mg/m ³ |
| Consumer DNEL, long-term | | dermal | systemic | 0,42 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 0,4 mg/kg bw/day |
| 5888-33-5 | Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) | | | |
| Worker DNEL, long-term | | inhalation | systemic | 4,9 mg/m ³ |
| Consumer DNEL, long-term | | inhalation | systemic | 1,45 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 1,39 mg/kg bw/day |
| Consumer DNEL, long-term | | dermal | systemic | 0,83 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 0,83 mg/kg bw/day |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | |
| Consumer DNEL, long-term | | inhalation | systemic | 0,145 mg/m ³ |
| Consumer DNEL, long-term | | dermal | systemic | 0,0833 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 0,0833 mg/kg bw/day |
| Worker DNEL, long-term | | inhalation | systemic | 0,822 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 0,233 mg/kg bw/day |
| 5495-84-1 | 2-Isopropyl-9H-thioxanthen-9-one | | | |
| Worker DNEL, long-term | | inhalation | systemic | 0,73 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 0,42 mg/kg bw/day |
| 162881-26-7 | phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | | | |
| Worker DNEL, long-term | | dermal | systemic | 3 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 5,2 mg/m ³ |
| Consumer DNEL, long-term | | dermal | systemic | 1,5 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 1,5 mg/kg bw/day |
| Worker DNEL, long-term | | inhalation | systemic | 21 mg/m ³ |

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|--------------------------|--|----------|-------------------------|
| 56641-05-5 | Ethoxylated phenyl acrylate | | |
| Worker DNEL, long-term | inhalation | systemic | 12 mg/m ³ |
| Worker DNEL, long-term | inhalation | local | 97 mg/m ³ |
| Worker DNEL, long-term | dermal | systemic | 3,5 mg/kg bw/day |
| 122-99-6 | 2-phenoxyethanol | | |
| Worker DNEL, long-term | inhalation | systemic | 5,7 mg/m ³ |
| Worker DNEL, long-term | inhalation | local | 5,7 mg/m ³ |
| Worker DNEL, long-term | dermal | systemic | 20,83 mg/kg bw/day |
| Consumer DNEL, long-term | inhalation | systemic | 2,41 mg/m ³ |
| Consumer DNEL, long-term | inhalation | local | 2,41 mg/m ³ |
| Consumer DNEL, long-term | dermal | systemic | 10,42 mg/kg bw/day |
| Consumer DNEL, long-term | oral | systemic | 9,23 mg/kg bw/day |
| Consumer DNEL, acute | oral | systemic | 9,23 mg/kg bw/day |
| 15625-89-5 | 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate | | |
| Consumer DNEL, long-term | oral | systemic | 0,5 mg/kg bw/day |
| Worker DNEL, long-term | inhalation | systemic | 3,5 mg/m ³ |
| Worker DNEL, long-term | dermal | systemic | 83 mg/kg bw/day |
| Consumer DNEL, long-term | inhalation | systemic | 0,87 mg/m ³ |
| Consumer DNEL, long-term | dermal | systemic | 42 mg/kg bw/day |
| 105-60-2 | epsylon-caprolactam | | |
| Worker DNEL, long-term | inhalation | local | 5 mg/m ³ |
| Worker DNEL, acute | inhalation | local | 10 mg/m ³ |
| Consumer DNEL, long-term | inhalation | local | 2,5 mg/m ³ |
| Consumer DNEL, acute | inhalation | local | 5 mg/m ³ |
| Consumer DNEL, long-term | oral | systemic | 8,55 mg/kg bw/day |
| 57472-68-1 | Oxybis(methyl-2,1-ethanediy) diacrylate | | |
| Worker DNEL, long-term | inhalation | systemic | 24,48 mg/m ³ |
| Worker DNEL, long-term | dermal | systemic | 2,77 mg/kg bw/day |
| Consumer DNEL, long-term | inhalation | systemic | 7,24 mg/m ³ |
| Consumer DNEL, long-term | dermal | systemic | 1,66 mg/kg bw/day |
| Consumer DNEL, long-term | oral | systemic | 2,08 mg/kg bw/day |
| 128-37-0 | 2,6-Di-tert-butyl-p-kresol | | |
| Consumer DNEL, long-term | oral | systemic | 0,25 mg/kg bw/day |
| Worker DNEL, long-term | inhalation | systemic | 1,76 mg/m ³ |
| Worker DNEL, long-term | dermal | systemic | 0,5 mg/kg bw/day |
| Consumer DNEL, long-term | inhalation | systemic | 0,435 mg/m ³ |
| Consumer DNEL, long-term | dermal | systemic | 0,25 mg/kg bw/day |

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| 556-67-2 | octamethylcyclotetrasiloxane | | |
|--------------------------|------------------------------|----------|----------------------|
| Worker DNEL, long-term | inhalation | systemic | 73 mg/m ³ |
| Worker DNEL, acute | inhalation | systemic | 73 mg/m ³ |
| Worker DNEL, long-term | inhalation | local | 73 mg/m ³ |
| Worker DNEL, acute | inhalation | local | 73 mg/m ³ |
| Consumer DNEL, long-term | inhalation | systemic | 13 mg/m ³ |
| Consumer DNEL, acute | inhalation | systemic | 13 mg/m ³ |
| Consumer DNEL, long-term | inhalation | local | 13 mg/m ³ |
| Consumer DNEL, acute | inhalation | local | 13 mg/m ³ |
| Consumer DNEL, long-term | oral | systemic | 3,7 mg/kg bw/day |
| Consumer DNEL, acute | oral | systemic | 3,7 mg/kg bw/day |

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PNEC values

| CAS No | Substance | Value |
|--|--|--------------|
| Environmental compartment | | |
| 66492-51-1 | (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate | |
| Freshwater | | 0,004 mg/l |
| Freshwater (intermittent releases) | | 0,04 mg/l |
| Marine water | | 0 mg/l |
| Freshwater sediment | | 0,019 mg/kg |
| Marine sediment | | 0,002 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | | 30 mg/l |
| Soil | | 0,001 mg/kg |
| 48145-04-6 | 2-Phenoxyethyl acrylate | |
| Freshwater | | 0,002 mg/l |
| Freshwater (intermittent releases) | | 0,012 mg/l |
| Marine water | | 0,0002 mg/l |
| Freshwater sediment | | 0,02 mg/kg |
| Marine sediment | | 0,002 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | | 1,77 mg/l |
| Soil | | 0,006 mg/kg |
| 2235-00-9 | N-Vinylcaprolactam | |
| Freshwater | | 0,1 mg/l |
| Freshwater (intermittent releases) | | 1 mg/l |
| Marine water | | 0,01 mg/l |
| Freshwater sediment | | 0,829 mg/kg |
| Marine sediment | | 0,083 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | | 262 mg/l |
| Soil | | 0,107 mg/kg |
| 5888-33-5 | Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) | |
| Freshwater | | 0,001 mg/l |
| Freshwater (intermittent releases) | | 0,007 mg/l |
| Marine water | | 0 mg/l |
| Freshwater sediment | | 0,145 mg/kg |
| Marine sediment | | 0,015 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | | 2 mg/l |
| Soil | | 0,029 mg/kg |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | |
| Freshwater | | 0,0014 mg/l |
| Freshwater (intermittent releases) | | 0,014 mg/l |
| Marine water | | 0,00014 mg/l |
| Freshwater sediment | | 0,115 mg/kg |
| Marine sediment | | 0,0115 mg/kg |
| Soil | | 0,0222 mg/kg |
| 5495-84-1 | 2-Isopropyl-9H-thioxanthen-9-one | |

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| | |
|--|--|
| Freshwater | 0 mg/l |
| Freshwater (intermittent releases) | 0 mg/l |
| Marine water | 0 mg/l |
| Freshwater sediment | 0,013 mg/kg |
| Marine sediment | 0,001 mg/kg |
| Secondary poisoning | 0,333 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 100 mg/l |
| Soil | 0,003 mg/kg |
| 162881-26-7 | phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide |
| Freshwater | 0,001 mg/l |
| Freshwater (intermittent releases) | 0,001 mg/l |
| Marine water | 0,001 mg/l |
| Freshwater sediment | 0,712 mg/kg |
| Marine sediment | 0,712 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 1 mg/l |
| Soil | 20 mg/kg |
| 56641-05-5 | Ethoxylated phenyl acrylate |
| Freshwater | 0,002 mg/l |
| Freshwater (intermittent releases) | 0,012 mg/l |
| Marine water | 0,0002 mg/l |
| Freshwater sediment | 0,053 mg/kg |
| Marine sediment | 0,005 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 1,77 mg/l |
| Soil | 0,009 mg/kg |
| 122-99-6 | 2-phenoxyethanol |
| Freshwater | 0,943 mg/l |
| Freshwater (intermittent releases) | 3,44 mg/l |
| Marine water | 0,094 mg/l |
| Freshwater sediment | 7,237 mg/kg |
| Marine sediment | 0,724 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 36 mg/l |
| Soil | 1,31 mg/kg |
| 15625-89-5 | 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate |
| Freshwater | 0,00087 mg/l |
| Freshwater (intermittent releases) | 0,0087 mg/l |
| Marine water | 0,000087 mg/l |
| Freshwater sediment | 0,017 mg/kg |
| Marine sediment | 0,002 mg/kg |
| Secondary poisoning | 10 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 6,25 mg/l |
| Soil | 0,003 mg/kg |
| 105-60-2 | epsilon-caprolactam |
| Freshwater | 2 mg/l |

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| | |
|--|--|
| Freshwater (intermittent releases) | 1 mg/l |
| Marine water | 0,2 mg/l |
| Freshwater sediment | 18,7 mg/kg |
| Marine sediment | 1,87 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 1737 mg/l |
| Soil | 2,55 mg/kg |
| 57472-68-1 | Oxybis(methyl-2,1-ethanediyl) diacrylate |
| Freshwater | 0,003 mg/l |
| Freshwater (intermittent releases) | 0,034 mg/l |
| Marine water | 0 mg/l |
| Freshwater sediment | 0,009 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 100 mg/l |
| Soil | 0,001 mg/kg |
| 128-37-0 | 2,6-Di-tert-butyl-p-kresol |
| Freshwater | 0,000199 mg/l |
| Freshwater (intermittent releases) | 0,00199 mg/l |
| Marine water | 0,00002 mg/l |
| Freshwater sediment | 0,458 mg/kg |
| Marine sediment | 0,046 mg/kg |
| Secondary poisoning | 16,67 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 0,017 mg/l |
| Soil | 0,054 mg/kg |
| 556-67-2 | octamethylcyclotetrasiloxane |
| Freshwater | 0,0015 mg/l |
| Marine water | 0,00015 mg/l |
| Freshwater sediment | 3 mg/kg |
| Marine sediment | 0,3 mg/kg |
| Secondary poisoning | 41 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 10 mg/l |
| Soil | 0,54 mg/kg |

Additional advice on limit values

2-phenoxyethanol MAK 1 ppm / 5.7 mg/m³

2,6-Di-tert-butyl-p-kresol (E: inhalable fraction) MAK 10 mg/m³

epsylon-caprolactam STEL 40 mg/m³

epsylon-caprolactam TWA 10 mg/m³

epsylon-caprolactam (E: inhalable fraction) MAK 5 mg/m³

epsylon-caprolactam (E: inhalable fraction) TWA 10 mg/m³

epsylon-caprolactam (E: inhalable fraction) STEL 40 mg/m³

8.2. Exposure controls

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Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Minimum room ventilation rate for handling/application (air changes per hour): 10

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Butyl caoutchouc (butyl rubber) (EN 374)

Thickness of the glove material > 0.35 mm

Breakthrough time: 240 min

NBR (Nitrile rubber), Wearing time with occasional contact (splashes): Immediately remove any contaminated clothing, shoes or stockings.

Skin protection

Use of protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Dangerous for the environment. Discharge into the environment must be avoided. Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|-------------------------------|
| Physical state: | Liquid |
| Colour: | red |
| Melting point/freezing point: | < 0 °C |
| Boiling point or initial boiling point and boiling range: | > 100 °C |
| Flammability: | not determined |
| Lower explosion limits: | not determined |
| Upper explosion limits: | not determined |
| Flash point: | > 100 °C |
| Auto-ignition temperature: | > 200 °C |
| Decomposition temperature: | not determined |
| pH-Value: | not determined |
| Viscosity / kinematic: (at 45 °C) | 8,7 - 10,5 mm ² /s |
| Water solubility: | easily soluble |

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Solubility in other solvents

not determined

Partition coefficient n-octanol/water:

not determined

Vapour pressure:

< 0,03 hPa

(at 20 °C)

Density (at 20 °C):

1,0942 g/cm³

Relative vapour density:

not determined

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

The product is not: Explosive.

Oxidizing properties

The product is not: oxidising.

Other safety characteristics

Evaporation rate:

not determined

Solid content:

not determined

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

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

none

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

In case of fire may be liberated: Gases/vapours, harmful

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

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

ATEmix calculated

ATE (oral) 4977,8 mg/kg; ATE (dermal) 8504,3 mg/kg; ATE (inhalation vapour) 13522,22 mg/l

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| CAS No | Chemical name | | | | |
|-------------|--|-------------------|---------|---|--|
| | Exposure route | Dose | Species | Source | Method |
| 66492-51-1 | (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate | | | | |
| | oral | LD50 > 2000 mg/kg | Rat | Study report (2011) | OECD Guideline 423 |
| | dermal | LD50 > 2000 mg/kg | Rat | | |
| 48145-04-6 | 2-Phenoxyethyl acrylate | | | | |
| | oral | LD50 5000 mg/kg | Rat | Study report (1981) | OECD Guideline 401 |
| 2235-00-9 | N-Vinylcaprolactam | | | | |
| | oral | LD50 1114 mg/kg | Rat | Study report | OECD Guideline 401 |
| | dermal | LD50 1700 mg/kg | Rabbit | Study report (1993) | OECD Guideline 402 |
| 5888-33-5 | Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) | | | | |
| | oral | LD50 5750 mg/kg | Rat | Study report (1974) | Standard acute method. Study conducted p |
| | dermal | LD50 > 3000 mg/kg | Rabbit | Study report (1974) | other: pre-guideline |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | | |
| | oral | LD50 > 5000 mg/kg | Rat | Study report (1989) | OECD Guideline 401 |
| | dermal | LD50 > 2000 mg/kg | Rat | Study report (2011) | OECD Guideline 402 |
| 5495-84-1 | 2-Isopropyl-9H-thioxanthen-9-one | | | | |
| | oral | LD50 > 2000 mg/kg | Rat | Study report (1998) | OECD Guideline 401 |
| | dermal | LD50 > 2000 mg/kg | Rat | Study report (1987) | OECD Guideline 402 |
| 162881-26-7 | phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | | | | |
| | oral | LD50 > 2000 mg/kg | Rat | Study report (1996) | OECD Guideline 401 |
| | dermal | LD50 > 2000 mg/kg | Rat | Study report (1996) | OECD Guideline 402 |
| 122-99-6 | 2-phenoxyethanol | | | | |
| | oral | ATE 1394 mg/kg | | | |
| | dermal | LD50 > 2214 mg/kg | Rabbit | J. Am. Coll. Toxicol. 9(2): 259-277 (198) | other: Draft IRLG |
| 15625-89-5 | 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate | | | | |
| | oral | LD50 > 5000 mg/kg | Rat | Study report (1972) | An acute oral toxicity study was perform |
| | dermal | LD50 > 2000 mg/kg | | Other company data (1981) | |
| 105-60-2 | epsilon-caprolactam | | | | |
| | oral | LD50 1475 mg/kg | Rat | Study report (1987) | EU Method B.1 |
| | dermal | LD50 > 2000 mg/kg | Rat | Study report (1987) | other: 84/449/EWG |

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| | | | | | | |
|------------|--|---------------|----------|---------------------------|---------------------|--------------------|
| | inhalation vapour | ATE | 11 mg/l | | | |
| | inhalation dust/mist | ATE | 1,5 mg/l | | | |
| 57472-68-1 | Oxybis(methyl-2,1-ethanediyl) diacrylate | | | | | |
| | oral | LD50 mg/kg | 3530 | Rat | Study report (1987) | OECD Guideline 401 |
| | dermal | LD50 mg/kg | > 2000 | Rabbit | Publication (1984) | OECD Guideline 402 |
| 128-37-0 | 2,6-Di-tert-butyl-p-kresol | | | | | |
| | oral | LD50 mg/kg | > 6000 | Rat | Study report (1989) | OECD Guideline 401 |
| | dermal | LD50 mg/kg | > 2000 | Rat | Study report (1988) | OECD Guideline 402 |
| 556-67-2 | octamethylcyclotetrasiloxane | | | | | |
| | oral | LD50 mg/kg | > 4800 | Rat | Study report (1979) | OECD Guideline 401 |
| | dermal | Data lacking | | | | |
| | inhalation (4 h) vapour | LC50 mg/l | 12,17 | Rattus norvegicus f. dom. | | |

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. ((5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate; 2-Phenoxyethyl acrylate; N-Vinylcaprolactam; Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate); diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide; phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide; Ethoxylated phenyl acrylate; 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate; Oxybis(methyl-2,1-ethanediyl) diacrylate)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer. (2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate)

Suspected of damaging fertility. Suspected of damaging the unborn child.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

STOT-single exposure

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

STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure. (N-Vinylcaprolactam)

Organs affected: liver, Respiratory tract

Aspiration hazard

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

11.2. Information on other hazards

Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

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| CAS No | Chemical name | | | | | |
|------------|--|--------------------|-----------|---------------------------------|----------------------------|------------------------------------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 66492-51-1 | (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate | | | | | |
| | Acute fish toxicity | LC50 4 mg/l | 96 h | Oncorhynchus mykiss | Study report (2010) | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 34 mg/l | 72 h | Desmodesmus subspicatus | Study report (2010) | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 20 mg/l | 48 h | Daphnia magna | Study report (2010) | OECD Guideline 202 |
| 48145-04-6 | 2-Phenoxyethyl acrylate | | | | | |
| | Acute algae toxicity | ErC50 4,4 mg/l | 72 h | Desmodesmus subspicatus | Study report (1989) | ISO 8692 |
| | Acute crustacea toxicity | EC50 mg/l 1,21 | 48 h | Daphnia magna (Big water flea) | | static |
| | Acute bacteria toxicity | (EC50 mg/l) 177 | 3 h | Activated sludge | Study report (2013) | ISO 8192 |
| 2235-00-9 | N-Vinylcaprolactam | | | | | |
| | Acute fish toxicity | LC50 318 mg/l | 96 h | Danio rerio | Study report (1995) | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l > 100 | 72 h | Desmodesmus subspicatus | Study report (1993) | other: 79/831/EEC, Annex V, part C |
| | Acute crustacea toxicity | EC50 mg/l > 100 | 48 h | Daphnia magna | Study report (1993) | EU Method C.2 |
| 5888-33-5 | Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) | | | | | |
| | Acute fish toxicity | LC50 mg/l 0,704 | 96 h | Danio rerio | REACH Registration Dossier | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l 1,98 | 72 h | Pseudokirchneriella subcapitata | REACH Registration Dossier | OECD Guideline 201 |
| | Crustacea toxicity | NOEC mg/l 0,092 | 21 d | Daphnia magna | REACH Registration Dossier | OECD Guideline 211 |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | | | |
| | Acute fish toxicity | LC50 1,4 mg/l | 96 h | Cyprinus carpio | REACH Registration Dossier | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l > 2,01 | 72 h | Pseudokirchneriella subcapitata | REACH Registration Dossier | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 mg/l 3,53 | 48 h | Daphnia magna | REACH Registration Dossier | OECD Guideline 202 |
| 5495-84-1 | 2-Isopropyl-9H-thioxanthen-9-one | | | | | |
| | Acute fish toxicity | LC50 mg/l 0,125 | 96 h | | REACH Registration Dossier | other: REACH Guidance on QSARs R.6 |
| | Acute algae toxicity | ErC50 mg/l > 0,047 | 72 h | Pseudokirchneriella subcapitata | REACH Registration Dossier | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 mg/l > 0,028 | 48 h | Daphnia magna | REACH Registration Dossier | OECD Guideline 202 |

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|-------------|--|---------------------|-------|---|----------------------------|--|
| | Acute bacteria toxicity | (EC50 > 1000 mg/l) | 3 h | activated sludge of a predominantly domestic sewage | REACH Registration Dossier | OECD Guideline 209 |
| 162881-26-7 | phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | | | | | |
| | Acute fish toxicity | LC50 > 0,09 mg/l | 96 h | Danio rerio | Study report (1997) | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 > 0,26 mg/l | 72 h | Desmodesmus subspicatus | Study report (1997) | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 > 1,175 mg/l | 48 h | Daphnia magna | Study report (1997) | OECD Guideline 202 |
| | Crustacea toxicity | NOEC >= 0,0081 mg/l | 21 d | Daphnia magna | Study report (2003) | OECD Guideline 211 |
| | Acute bacteria toxicity | (EC50 > 100 mg/l) | 3 h | activated sludge, domestic | Study report (1997) | OECD Guideline 209 |
| 56641-05-5 | Ethoxylated phenyl acrylate | | | | | |
| | Acute algae toxicity | ErC50 4,4 mg/l | 72 h | Desmodesmus subspicatus | REACH Registration Dossier | ISO 8692 |
| | Acute bacteria toxicity | (EC50 177 mg/l) | 3 h | Activated sludge | REACH Registration Dossier | ISO 8192 |
| 122-99-6 | 2-phenoxyethanol | | | | | |
| | Acute fish toxicity | LC50 344 mg/l | 96 h | Pimephales promelas | Publication (1984) | other: ASTM |
| | Acute algae toxicity | ErC50 > 100 mg/l | 72 h | Desmodesmus subspicatus | Study report (2012) | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 > 500 mg/l | 48 h | Daphnia magna | Study report (1989) | other: EU guideline 79/831 EEC, Annex V, |
| | Fish toxicity | NOEC 23 mg/l | 34 d | Pimephales promelas | Study report (2005) | OECD Guideline 210 |
| | Crustacea toxicity | NOEC 9,43 mg/l | 21 d | Daphnia magna | Study report (2006) | OECD Guideline 211 |
| | Acute bacteria toxicity | (EC50 > 1000 mg/l) | 0,5 h | activated sludge of a predominantly domestic sewage | Study report (2002) | OECD Guideline 209 |
| 15625-89-5 | 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate | | | | | |
| | Acute fish toxicity | LC50 0,87 mg/l | 96 h | Danio rerio | Study report (2016) | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 4,86 mg/l | 96 h | Desmodesmus subspicatus | Study report (1989) | EU Method C.3 |
| | Acute crustacea toxicity | EC50 19,9 mg/l | 48 h | Daphnia magna | Study report (1991) | EU Method C.2 |
| 105-60-2 | epsilon-caprolactam | | | | | |
| | Acute fish toxicity | LC50 > 100 mg/l | 96 h | Oryzias latipes | Study report (2002) | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 > 1000 mg/l | 72 h | Pseudokirchneriella subcapitata | Study report (2002) | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 > 1000 mg/l | 48 h | Daphnia magna | Study report (2002) | OECD Guideline 202 |
| | Crustacea toxicity | NOEC 100 mg/l | 21 d | Daphnia magna | Study report (2002) | OECD Guideline 211 |
| 57472-68-1 | Oxybis(methyl-2,1-ethanediyl) diacrylate | | | | | |

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|----------|------------------------------|-------------------|-----------|-------|------------------------------------|--|--|
| | Acute fish toxicity | LC50 4,64 mg/l | 2,2 - | 96 h | Leuciscus idus | Study report (1989) | other: German industrial standard test g |
| | Acute algae toxicity | ErC50 mg/l | 16,7 | 72 h | Desmodemus subspicatus | Study report (1990) | other: DIN 38412, part 9 |
| | Acute crustacea toxicity | EC50 mg/l | 22,3 | 48 h | Daphnia magna | Study report (1988) | EU Method C.2 |
| | Acute bacteria toxicity | (EC50 mg/l) | > 1000 | 0,5 h | activated sludge, domestic | Study report (2002) | OECD Guideline 209 |
| 128-37-0 | 2,6-Di-tert-butyl-p-kresol | | | | | | |
| | Acute fish toxicity | LC50 mg/l | 0,199 | 96 h | Oryzias latipes | REACH Registration Dossier | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l | 0,758 | 96 h | Pseudokirchneriella subcapitata | REACH Registration Dossier | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 mg/l | 0,48 | 48 h | Daphnia magna | REACH Registration Dossier | OECD Guideline 202 |
| | Fish toxicity | NOEC mg/l | 0,053 | 30 d | Oryzias latipes | REACH Registration Dossier | OECD Guideline 210 |
| | Crustacea toxicity | NOEC mg/l | 0,069 | 21 d | Daphnia magna | REACH Registration Dossier | OECD Guideline 211 |
| | Acute bacteria toxicity | (EC50 mg/l) | > 10000 | 3 h | Activated sludge | Study report (2000) | OECD Guideline 209 |
| 556-67-2 | octamethylcyclotetrasiloxane | | | | | | |
| | Acute fish toxicity | LC50 mg/l | > 0,022 | 96 h | Oncorhynchus mykiss | Env. Toxicol. & Chemistry 14, 1639-1647 | EPA OTS 797.1400 |
| | Acute algae toxicity | ErC50 mg/l | > 0,022 | 96 h | Pseudokirchneriella subcapitata | Study report (1990) | EPA OTS 797.1050 |
| | Acute crustacea toxicity | EC50 mg/l | > 0,015 | 48 h | Daphnia magna | Env. Toxicol. & Chemistry 14, 1639-1647 | EPA OTS 797.1300 |
| | Fish toxicity | NOEC mg/l | >= 0,0044 | 93 d | Oncorhynchus mykiss | Env. Toxicol. & Chemistry 14, 1639-1647 | other: 40 CFR 797.1600 |
| | Crustacea toxicity | NOEC mg/l | >= 0,015 | 21 d | Daphnia magna | Env. Toxicol. & Chemistry 14, 1639-1647 | EPA OTS 797.1330 |
| | Acute bacteria toxicity | (EC50 mg/l) | 10000 | 3 h | Pseudomonas putida | | |

12.2. Persistence and degradability

The product has not been tested.

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| CAS No | Chemical name | Method | Value | d | Source |
|------------|--|------------|---------|----|--------|
| | | Evaluation | | | |
| 66492-51-1 | (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate | QSAR | 33,62% | 28 | |
| 48145-04-6 | 2-Phenoxyethyl acrylate | | 22,3% | 28 | |
| 2235-00-9 | N-Vinylcaprolactam | | 30-40% | 28 | |
| 5888-33-5 | Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) | OECD 310 | 57% | 28 | |
| | Not readily biodegradable (according to OECD criteria) | | | | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | 0-10% | 28 | |
| 122-99-6 | 2-phenoxyethanol | | 21,33% | 20 | |
| 15625-89-5 | 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate | | 70-80% | 28 | |
| 105-60-2 | epsilon-caprolactam | | 5% | 28 | |
| 57472-68-1 | Oxybis(methyl-2,1-ethanediyl) diacrylate | | 90-100% | 28 | |
| 128-37-0 | 2,6-Di-tert-butyl-p-kresol | | 4,5% | 28 | |
| 556-67-2 | octamethylcyclotetrasiloxane | OECD 310 | 3,7% | 28 | |
| | Not readily biodegradable (according to OECD criteria) | | | | |

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|-------------|--|-------------|
| 66492-51-1 | (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate | 1,9 |
| 48145-04-6 | 2-Phenoxyethyl acrylate | ca. 2,58 |
| 2235-00-9 | N-Vinylcaprolactam | 1,2 |
| 5888-33-5 | Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) | 4,52 |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 3,1 |
| 5495-84-1 | 2-Isopropyl-9H-thioxanthen-9-one | 5,59 |
| 162881-26-7 | phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | 5,8 |
| 56641-05-5 | Ethoxylated phenyl acrylate | 2,672 |
| 122-99-6 | 2-phenoxyethanol | 1,2 |
| 15625-89-5 | 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate | 4,35 |
| 105-60-2 | epsilon-caprolactam | 0,12 |
| 57472-68-1 | Oxybis(methyl-2,1-ethanediyl) diacrylate | 0,01 - 0,39 |
| 128-37-0 | 2,6-Di-tert-butyl-p-kresol | 5,03 |
| 556-67-2 | octamethylcyclotetrasiloxane | 6,488 |

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BCF

| CAS No | Chemical name | BCF | Species | Source |
|-------------|---|---------|---------------------|------------------------|
| 5888-33-5 | Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) | 37 | Danio rerio | Study report (2006) |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 47 - 55 | Cyprinus carpio | REACH Registration D |
| 162881-26-7 | phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | < 5 | Cyprinus carpio | Study report (1997) |
| 122-99-6 | 2-phenoxyethanol | 0,349 | calculation | QSAR (2007) |
| 15625-89-5 | 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate | 344 | | The BCF was calculated |
| 105-60-2 | epsilon-caprolactam | < 1 | | REACH Registration D |
| 128-37-0 | 2,6-Di-tert-butyl-p-kresol | 465 | fish | REACH Registration D |
| 556-67-2 | octamethylcyclotetrasiloxane | 12400 | Pimephales promelas | Study report (1991) |

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

The product has not been tested.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meet the criteria.

12.7. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations
13.1. Waste treatment methods
Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information
Land transport (ADR/RID)
14.1. UN number or ID number:

UN 3082

14.2. UN proper shipping name:

 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(2-Phenoxyethyl acrylate, (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate, Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), ...)

14.3. Transport hazard class(es):

9

14.4. Packing group:

III

Hazard label:

9



Classification code:

M6

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| | |
|--------------------------|-----------------|
| Special Provisions: | 274 335 375 601 |
| Limited quantity: | 5 L |
| Excepted quantity: | E1 |
| Transport category: | 3 |
| Hazard No: | 90 |
| Tunnel restriction code: | - |

Inland waterways transport (ADN)

| | |
|---|--|
| <u>14.1. UN number or ID number:</u> | UN 3082 |
| <u>14.2. UN proper shipping name:</u> | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Phenoxyethyl acrylate, (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate, Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), ...) |
| <u>14.3. Transport hazard class(es):</u> | 9 |
| <u>14.4. Packing group:</u> | III |
| Hazard label: | 9 |



| | |
|----------------------|-----------------|
| Classification code: | M6 |
| Special Provisions: | 274 335 375 601 |
| Limited quantity: | 5 L |
| Excepted quantity: | E1 |

Marine transport (IMDG)

| | |
|---|--|
| <u>14.1. UN number or ID number:</u> | UN 3082 |
| <u>14.2. UN proper shipping name:</u> | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Phenoxyethyl acrylate, (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate, Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), ...) |
| <u>14.3. Transport hazard class(es):</u> | 9 |
| <u>14.4. Packing group:</u> | III |
| Hazard label: | 9 |



| | |
|---------------------|---------------|
| Special Provisions: | 274, 335, 969 |
| Limited quantity: | 5 L |
| Excepted quantity: | E1 |
| EmS: | F-A, S-F |

Air transport (ICAO-TI/IATA-DGR)

| | |
|---|--|
| <u>14.1. UN number or ID number:</u> | UN 3082 |
| <u>14.2. UN proper shipping name:</u> | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Phenoxyethyl acrylate, (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate, Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), ...) |
| <u>14.3. Transport hazard class(es):</u> | 9 |
| <u>14.4. Packing group:</u> | III |
| Hazard label: | 9 |



| | |
|--|---------------|
| Special Provisions: | A97 A158 A197 |
| Limited quantity Passenger: | 30 kg G |
| Passenger LQ: | Y964 |
| Excepted quantity: | E1 |
| IATA-packing instructions - Passenger: | 964 |

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| | |
|------------------------------------|-------|
| IATA-max. quantity - Passenger: | 450 L |
| IATA-packing instructions - Cargo: | 964 |
| IATA-max. quantity - Cargo: | 450 L |

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: (2-Phenoxyethyl acrylate, (5-ethyl-1,3-dioxan-5-yl)methyl prop-2-enoate, Isobornyl acrylate (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), ...)

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

Other applicable information

This product is not regulated as a dangerous good when transported in sizes of <=5 L or <=5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

Special Provisions: ADR + IMDG SV 375, IATA SP A197

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

Authorisations (REACH, annex XIV):

 Substances of very high concern, SVHC (REACH, article 59):
 octamethylcyclotetrasiloxane

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 70

| | |
|---|---|
| 2010/75/EU (VOC): | 0,18 % (1,97 g/l) |
| 2004/42/EC (VOC): | 39,22 % (429,145 g/l) |
| Information according to 2012/18/EU (SEVESO III): | E2 Hazardous to the Aquatic Environment |

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 3 - highly hazardous to water

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

Additional information

 Technische Anleitung zur Reinhaltung der Luft (TA-Luft)
 epsylon-caprolactam (CAS 105-60-2) 0.1 - <1.0%
 acrylic acid, prop-2-enoic acid (CAS 79-10-7) 0 - <0.1%
 octamethylcyclotetrasiloxane (CAS 556-67-2) 0 - <0.1%

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route

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(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

RID: Regulations concerning the international carriage of dangerous goods by rail

 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

VOC: Volatile Organic Compounds

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Classification for mixtures and used evaluation method according to GB CLP Regulation

| Classification | Classification procedure |
|-------------------------|--------------------------|
| Skin Irrit. 2; H315 | Calculation method |
| Eye Irrit. 2; H319 | Calculation method |
| Skin Sens. 1; H317 | Calculation method |
| Carc. 2; H351 | Calculation method |
| Repr. 2; H361fd | Calculation method |
| STOT RE 1; H372 | Calculation method |
| Aquatic Chronic 2; H411 | Calculation method |

Relevant H and EUH statements (number and full text)

| | |
|------|--------------------------------------|
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H312 | Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |

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| | |
|--------|--|
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H351 | Suspected of causing cancer. |
| H361d | Suspected of damaging the unborn child. |
| H361f | Suspected of damaging fertility. |
| H361fd | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| H372 | Causes 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. |
| H413 | May cause long lasting harmful effects to aquatic life. |

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)