

Safety Data Sheet

according to Regulation (EC) No 1907/2006

freeform® bond

Revision date: 01.02.2024

Product code: 10571.2

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

1.1. Product identifier

freeform® bond

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

1.3. Details of the supplier of the safety data sheet

| | | |
|-------------------------|---|---------------------------|
| Company name: | DETAX GmbH | |
| Street: | Carl-Zeiss-Straße 4 | |
| Place: | D-76275 Ettlingen | |
| Telephone: | +49 7243/510-0 | Telefax: +49 7243/510-100 |
| E-mail: | post@detax.com | |
| Internet: | www.detax.com | |
| Responsible Department: | This number is only obtainable during office hours (Monday - Thursday 8.00 a.m. - 5.00 p.m., Friday 8.00 a.m. - 4.00 p.m.) | |

1.4. Emergency telephone number:

+1-800-424-9300 (CHEMTREC worldwide)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Liq. 2; H225
 Skin Irrit. 2; H315
 Eye Irrit. 2; H319
 Skin Sens. 1; H317
 STOT SE 3; H335
 Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

"methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"
 acrylic acid derivatives
 @000000030301
 vinylester resin
 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Signal word: Danger

Pictograms:



Hazard statements

| | |
|------|--|
| H225 | Highly flammable liquid and vapour. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H412 | Harmful to aquatic life with long lasting effects. |

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Precautionary statements

| | |
|-----------|--|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |
| P302+P352 | IF ON SKIN: Wash with plenty of . |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P501 | |

Special labelling of certain mixtures

| | |
|--------|---|
| EUH210 | Safety data sheet available on request. |
|--------|---|

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

| CAS No | Chemical name | Quantity |
|--------------|---|------------------|
| | EC No | |
| | Index No | |
| | REACH No | |
| | Classification (Regulation (EC) No 1272/2008) | |
| 80-62-6 | "methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA" | 20 - 70 % |
| | 201-297-1 | 607-035-00-6 |
| | Flam. Liq. 2, Skin Irrit. 2, Skin Sens. 1, STOT SE 3; H225 H315 H317 H335 | |
| 1384855-91-7 | 2-propenoic acid , reaction products with dipentaerythritol | 25 - 50 % |
| | 800-838-4 | 01-2119980666-22 |
| | Eye Irrit. 2, Skin Sens. 1A, Aquatic Chronic 3; H319 H317 H412 | |
| 55818-57-0 | vinylester resin | 0.1 - < 5 % |
| | | 01-2119490020-53 |
| | Skin Sens. 1, Aquatic Chronic 2; H317 H411 | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 0,1 - 5 % |
| | 278-355-8 | 015-203-00-X |
| | 01-2119972295-29 | |
| | Repr. 2, Skin Sens. 1B, Aquatic Chronic 2; H361 H317 H411 | |

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 | |
| 80-62-6 | 201-297-1 | "methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA" | 20 - 70 % |
| | | inhalation: LC50 = 78 mg/l (vapours); dermal: LD50 = >5000 mg/kg; oral: LD50 = 7870 mg/kg | |
| 1384855-91-7 | 800-838-4 | 2-propenoic acid , reaction products with dipentaerythritol | 25 - 50 % |
| | | dermal: LD50 = 2000 mg/kg; oral: LD50 = 2000 mg/kg | |
| 55818-57-0 | | vinylester resin | 0.1 - < 5 % |
| | | dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg | |
| 75980-60-8 | 278-355-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 0,1 - 5 % |
| | | dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg | |

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SECTION 4: First aid measures

4.1. Description of first aid measures

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.

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.

After ingestion

Rinse mouth immediately and drink plenty of water.

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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder.

5.2. Special hazards arising from the substance or mixture

Highly flammable. Vapours can form explosive mixtures with air.

5.3. Advice for firefighters

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

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

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

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion risk.

6.3. Methods and material for containment and cleaning up

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

SECTION 7: Handling and storage

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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.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

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.

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 exhaust at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: Oxidising agent . Pyrophoric or self-heating substances.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit values

| CAS No | Name of agent | ppm | mg/m ³ | fib/cm ³ | Category | Origin |
|---------|---------------------|-----|-------------------|---------------------|---------------|--------|
| 80-62-6 | Methyl methacrylate | 50 | - | | TWA (8 h) | |
| | | 100 | - | | STEL (15 min) | |

DNEL/DMEL values

| CAS No | Name of agent | Exposure route | Effect | Value |
|------------|---|----------------|----------|-------------------------|
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | |
| | Worker DNEL, long-term | inhalation | systemic | 0,822 mg/m ³ |
| | Worker DNEL, long-term | dermal | systemic | 0,233 mg/kg bw/day |
| | 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 |

8.2. Exposure controls

Appropriate engineering controls

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

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

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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)

Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing .

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | |
|---|------------------------|--------------------|
| Physical state: | Liquid | |
| Colour: | light yellow | |
| | | Test method |
| Melting point/freezing point: | not determined | |
| Boiling point or initial boiling point and boiling range: | 92 °C | DIN 51356 |
| Flammability: | not applicable | |
| | not applicable | |
| Lower explosion limits: | 2 vol. % | |
| Upper explosion limits: | 12 vol. % | |
| Flash point: | 12 °C | DIN 51755 |
| Auto-ignition temperature: | >400 °C | DIN 51794 |
| Decomposition temperature: | >100 °C | |
| pH-Value: | not determined | |
| Water solubility: (at 20 °C) | 16 g/L | |
| Solubility in other solvents | not determined | |
| Partition coefficient n-octanol/water: | not determined | |
| Vapour pressure: (at 20 °C) | 40 hPa | |
| Vapour pressure: (at 50 °C) | 160 hPa | |
| Density (at 20 °C): | 1,07 g/cm ³ | DIN 51757 |
| Relative vapour density: | not determined | |

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive.

Self-ignition temperature

Solid:

not applicable

Gas:

not applicable

Oxidizing properties

Not oxidizing.

Other safety characteristics

Evaporation rate:

not determined

Solid content:

not determined

SECTION 10: Stability and reactivity

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10.1. Reactivity

Highly flammable.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

10.5. Incompatible materials

No information available.

SECTION 11: Toxicological information

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

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

| CAS No | Chemical name | | | | |
|--------------|---|---------------|---------|--------|----------|
| | Exposure route | Dose | Species | Source | Method |
| 80-62-6 | "methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA" | | | | |
| | oral | LD50 mg/kg | 7870 | Rat | |
| | dermal | LD50 mg/kg | >5000 | Rabbit | |
| | inhalation (4 h) vapour | LC50 | 78 mg/l | Rat | |
| 1384855-91-7 | 2-propenoic acid , reaction products with dipentaerythritol | | | | |
| | oral | LD50 mg/kg | 2000 | Rat | OECD 423 |
| | dermal | LD50 mg/kg | 2000 | Rabbit | OECD 402 |
| 55818-57-0 | vinylester resin | | | | |
| | oral | LD50 mg/kg | >2000 | Rat | OECD 401 |
| | dermal | LD50 mg/kg | >2000 | Rat | OECD 402 |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | | |
| | oral | LD50 mg/kg | >5000 | Rat | |
| | dermal | LD50 mg/kg | >2000 | Rat | |

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. ("methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"; 2-propenoic acid , reaction products with dipentaerythritol; vinylester resin; diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide)

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Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

May cause respiratory irritation. ("methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA")

STOT-repeated exposure

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

Aspiration hazard

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

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

| CAS No | Chemical name | | | | | |
|--------------|---|----------------|-----------|---------|---------------------------------|----------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 80-62-6 | "methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA" | | | | | |
| | Acute fish toxicity | LC50 mg/l | >100 | 96 h | | |
| 1384855-91-7 | 2-propenoic acid , reaction products with dipentaerythritol | | | | | |
| | Algae toxicity | NOEC | 10 mg/l | 72 d | Pseudokirchneriella subcapitata | OECD 201 |
| 55818-57-0 | vinylester resin | | | | | |
| | Acute fish toxicity | LC50 mg/l | >100 | 96 h | | OECD 201 |
| | Acute crustacea toxicity | EC50 mg/l | >100 | 48 h | | OECD 202 |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | | | |
| | Acute algae toxicity | ErC50 mg/l | >2,01 | 72 h | Pseudokirchneriella subcapitata | |
| | Acute crustacea toxicity | EC50 mg/l | 3,53 | 48 h | Daphnia magna (Big water flea) | |
| | Acute bacteria toxicity | (EC50 mg/l) | >1000 | 3 h | Activated sludge | |

12.2. Persistence and degradability

The product has not been tested.

| CAS No | Chemical name | | | |
|------------|--|-------|----|--------|
| | Method | Value | d | Source |
| | Evaluation | | | |
| 55818-57-0 | vinylester resin | | | |
| | | 42% | 28 | |
| | Not readily biodegradable (according to OECD criteria) | | | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | |
| | | 0-10% | 28 | |
| | Not readily biodegradable (according to OECD criteria) | | | |

12.3. Bioaccumulative potential

The product has not been tested.

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Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|------------|---|---------|
| 55818-57-0 | vinylester resin | 3,8 |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 3,1 |

BCF

| CAS No | Chemical name | BCF | Species | Source |
|------------|---|-------|-------------------------------|--------|
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 47-55 | Cyprinus carpio (Common Carp) | |

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 REACH, annex XIII.

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 meets 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

Non-contaminated packages may be recycled. 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 1866 |
| 14.2. UN proper shipping name: | RESIN SOLUTION |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | I |
| Hazard label: | 3 |
| Classification code: | F1 |
| Limited quantity: | 500 mL |
| Excepted quantity: | E3 |
| Transport category: | 1 |
| Hazard No: | 33 |
| Tunnel restriction code: | D/E |

Inland waterways transport (ADN)

| | |
|--|----------------|
| 14.1. UN number or ID number: | UN 1866 |
| 14.2. UN proper shipping name: | Resin solution |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | I |
| Hazard label: | 3 |
| Classification code: | F1 |

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Limited quantity: 500 mL
 Excepted quantity: E3

Marine transport (IMDG)

14.1. UN number or ID number: UN 1866
14.2. UN proper shipping name: RESIN SOLUTION
14.3. Transport hazard class(es): 3
14.4. Packing group: I
 Hazard label: 3
 Special Provisions: -
 Limited quantity: 500 mL
 Excepted quantity: E3
 EmS: F-E, S-E

Other applicable information (marine transport)

Flash point: 12°C c.c.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1866
14.2. UN proper shipping name: RESIN SOLUTION
14.3. Transport hazard class(es): 3
14.4. Packing group: I
 Hazard label: 3
 Special Provisions: A3
 Limited quantity Passenger: Forbidden
 Passenger LQ: Forbidden
 Excepted quantity: E3
 IATA-packing instructions - Passenger: 351
 IATA-max. quantity - Passenger: 1 L
 IATA-packing instructions - Cargo: 361
 IATA-max. quantity - Cargo: 30 L

14.6. Special precautions for user

Warning: Combustible liquid.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
 Water hazard class (D): 2 - obviously hazardous to water
 Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

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

SECTION 16: Other information

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Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(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
SVHC: Substance of Very High Concern
Flam. Liq: Flammable liquid
Skin Irrit: Skin irritation
Eye Irrit: Eye irritation
Skin Sens: Skin sensitisation
Repr: Reproductive toxicity
STOT SE: Specific target organ toxicity - single exposure
Aquatic Chronic: Chronic aquatic hazard

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

| Classification | Classification procedure |
|-------------------------|--------------------------|
| Flam. Liq. 2; H225 | On basis of test data |
| Skin Irrit. 2; H315 | Calculation method |
| Eye Irrit. 2; H319 | Calculation method |
| Skin Sens. 1; H317 | Calculation method |
| STOT SE 3; H335 | Calculation method |
| Aquatic Chronic 3; H412 | Calculation method |

Relevant H and EUH statements (number and full text)

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| | |
|--------|--|
| H225 | Highly flammable liquid and vapour. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |
| EUH210 | Safety data sheet available on request. |

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.)

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

1.1. Product identifier

freeform® coat

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

1.3. Details of the supplier of the safety data sheet

| | | |
|-------------------------|---|---------------------------|
| Company name: | DETAX GmbH | |
| Street: | Carl-Zeiss-Straße 4 | |
| Place: | D-76275 Ettlingen | |
| Telephone: | +49 7243/510-0 | Telefax: +49 7243/510-100 |
| E-mail: | post@detax.com | |
| Internet: | www.detax.com | |
| Responsible Department: | This number is only obtainable during office hours (Monday - Thursday 8.00 a.m. - 5.00 p.m., Friday 8.00 a.m. - 4.00 p.m.) | |

1.4. Emergency telephone

number:

+1-800-424-9300 (CHEMTREC worldwide)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Liq. 2; H225
 Skin Irrit. 2; H315
 Eye Irrit. 2; H319
 Skin Sens. 1; H317
 STOT SE 3; H335
 Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

"methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"
 acrylic acid derivatives
 @000000030301
 vinylester resin
 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Signal word: Danger

Pictograms:



Hazard statements

| | |
|------|--|
| H225 | Highly flammable liquid and vapour. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H412 | Harmful to aquatic life with long lasting effects. |

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Precautionary statements

| | |
|-----------|--|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |
| P302+P352 | IF ON SKIN: Wash with plenty of . |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P501 | |

Special labelling of certain mixtures

| | |
|--------|---|
| EUH210 | Safety data sheet available on request. |
|--------|---|

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

| CAS No | Chemical name | Quantity |
|--------------|---|------------------|
| | EC No | |
| | Index No | |
| | REACH No | |
| | Classification (Regulation (EC) No 1272/2008) | |
| 80-62-6 | "methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA" | 20 - 70 % |
| | 201-297-1 | 607-035-00-6 |
| | Flam. Liq. 2, Skin Irrit. 2, Skin Sens. 1, STOT SE 3; H225 H315 H317 H335 | |
| 1384855-91-7 | 2-propenoic acid , reaction products with dipentaerythritol | 25 - 50 % |
| | 800-838-4 | 01-2119980666-22 |
| | Eye Irrit. 2, Skin Sens. 1A, Aquatic Chronic 3; H319 H317 H412 | |
| 55818-57-0 | vinylester resin | 0.1 - < 5 % |
| | | 01-2119490020-53 |
| | Skin Sens. 1, Aquatic Chronic 2; H317 H411 | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 0,1 - 5 % |
| | 278-355-8 | 015-203-00-X |
| | 01-2119972295-29 | |
| | Repr. 2, Skin Sens. 1B, Aquatic Chronic 2; H361 H317 H411 | |

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 | |
| 80-62-6 | 201-297-1 | "methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA" | 20 - 70 % |
| | | inhalation: LC50 = 78 mg/l (vapours); dermal: LD50 = >5000 mg/kg; oral: LD50 = 7870 mg/kg | |
| 1384855-91-7 | 800-838-4 | 2-propenoic acid , reaction products with dipentaerythritol | 25 - 50 % |
| | | dermal: LD50 = 2000 mg/kg; oral: LD50 = 2000 mg/kg | |
| 55818-57-0 | | vinylester resin | 0.1 - < 5 % |
| | | dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg | |
| 75980-60-8 | 278-355-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 0,1 - 5 % |
| | | dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg | |

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SECTION 4: First aid measures

4.1. Description of first aid measures

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.

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.

After ingestion

Rinse mouth immediately and drink plenty of water.

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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder.

5.2. Special hazards arising from the substance or mixture

Highly flammable. Vapours can form explosive mixtures with air.

5.3. Advice for firefighters

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

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

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

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion risk.

6.3. Methods and material for containment and cleaning up

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

SECTION 7: Handling and storage

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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.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

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.

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 exhaust at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: Oxidising agent . Pyrophoric or self-heating substances.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit values

| CAS No | Name of agent | ppm | mg/m ³ | fib/cm ³ | Category | Origin |
|---------|---------------------|-----|-------------------|---------------------|---------------|--------|
| 80-62-6 | Methyl methacrylate | 50 | - | | TWA (8 h) | |
| | | 100 | - | | STEL (15 min) | |

DNEL/DMEL values

| CAS No | Name of agent | Exposure route | Effect | Value |
|------------|---|----------------|----------|-------------------------|
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | |
| | Worker DNEL, long-term | inhalation | systemic | 0,822 mg/m ³ |
| | Worker DNEL, long-term | dermal | systemic | 0,233 mg/kg bw/day |
| | 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 |

8.2. Exposure controls

Appropriate engineering controls

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

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

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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)

Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing .

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | |
|---|----------------|----------------------------------|
| Physical state: | Liquid | |
| Colour: | light yellow | |
| | | Test method |
| Melting point/freezing point: | | not determined |
| Boiling point or initial boiling point and boiling range: | | 92 °C DIN 51356 |
| Flammability: | | not applicable |
| | | not applicable |
| Lower explosion limits: | | 2 vol. % |
| Upper explosion limits: | | 12 vol. % |
| Flash point: | | 12 °C DIN 51755 |
| Auto-ignition temperature: | | >400 °C DIN 51794 |
| Decomposition temperature: | | >100 °C |
| pH-Value: | | not determined |
| Water solubility: (at 20 °C) | | 16 g/L |
| Solubility in other solvents | | |
| | not determined | |
| Partition coefficient n-octanol/water: | | not determined |
| Vapour pressure: (at 20 °C) | | 40 hPa |
| Vapour pressure: (at 50 °C) | | 160 hPa |
| Density (at 20 °C): | | 1,07 g/cm ³ DIN 51757 |
| Relative vapour density: | | not determined |

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive.

Self-ignition temperature

Solid:

not applicable

Gas:

not applicable

Oxidizing properties

Not oxidizing.

Other safety characteristics

Evaporation rate:

not determined

Solid content:

not determined

SECTION 10: Stability and reactivity

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10.1. Reactivity

Highly flammable.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

10.5. Incompatible materials

No information available.

SECTION 11: Toxicological information

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

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

| CAS No | Chemical name | | | | |
|--------------|---|---------------|---------|--------|----------|
| | Exposure route | Dose | Species | Source | Method |
| 80-62-6 | "methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA" | | | | |
| | oral | LD50 mg/kg | 7870 | Rat | |
| | dermal | LD50 mg/kg | >5000 | Rabbit | |
| | inhalation (4 h) vapour | LC50 | 78 mg/l | Rat | |
| 1384855-91-7 | 2-propenoic acid , reaction products with dipentaerythritol | | | | |
| | oral | LD50 mg/kg | 2000 | Rat | OECD 423 |
| | dermal | LD50 mg/kg | 2000 | Rabbit | OECD 402 |
| 55818-57-0 | vinylester resin | | | | |
| | oral | LD50 mg/kg | >2000 | Rat | OECD 401 |
| | dermal | LD50 mg/kg | >2000 | Rat | OECD 402 |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | | |
| | oral | LD50 mg/kg | >5000 | Rat | |
| | dermal | LD50 mg/kg | >2000 | Rat | |

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. ("methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"; 2-propenoic acid , reaction products with dipentaerythritol; vinylester resin; diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide)

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Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

May cause respiratory irritation. ("methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA")

STOT-repeated exposure

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

Aspiration hazard

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

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

| CAS No | Chemical name | | | | | |
|--------------|---|----------------|-----------|---------|---------------------------------|----------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 80-62-6 | "methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA" | | | | | |
| | Acute fish toxicity | LC50 mg/l | >100 | 96 h | | |
| 1384855-91-7 | 2-propenoic acid , reaction products with dipentaerythritol | | | | | |
| | Algae toxicity | NOEC | 10 mg/l | 72 d | Pseudokirchneriella subcapitata | OECD 201 |
| 55818-57-0 | vinylester resin | | | | | |
| | Acute fish toxicity | LC50 mg/l | >100 | 96 h | | OECD 201 |
| | Acute crustacea toxicity | EC50 mg/l | >100 | 48 h | | OECD 202 |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | | | |
| | Acute algae toxicity | ErC50 mg/l | >2,01 | 72 h | Pseudokirchneriella subcapitata | |
| | Acute crustacea toxicity | EC50 mg/l | 3,53 | 48 h | Daphnia magna (Big water flea) | |
| | Acute bacteria toxicity | (EC50 mg/l) | >1000 | 3 h | Activated sludge | |

12.2. Persistence and degradability

The product has not been tested.

| CAS No | Chemical name | | | |
|------------|--|-------|----|--------|
| | Method | Value | d | Source |
| | Evaluation | | | |
| 55818-57-0 | vinylester resin | | | |
| | | 42% | 28 | |
| | Not readily biodegradable (according to OECD criteria) | | | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | |
| | | 0-10% | 28 | |
| | Not readily biodegradable (according to OECD criteria) | | | |

12.3. Bioaccumulative potential

The product has not been tested.

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Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|------------|---|---------|
| 55818-57-0 | vinylester resin | 3,8 |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 3,1 |

BCF

| CAS No | Chemical name | BCF | Species | Source |
|------------|---|-------|-------------------------------|--------|
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 47-55 | Cyprinus carpio (Common Carp) | |

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 REACH, annex XIII.

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 meets 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

Non-contaminated packages may be recycled. 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 1866 |
| 14.2. UN proper shipping name: | RESIN SOLUTION |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | I |
| Hazard label: | 3 |
| Classification code: | F1 |
| Limited quantity: | 500 mL |
| Excepted quantity: | E3 |
| Transport category: | 1 |
| Hazard No: | 33 |
| Tunnel restriction code: | D/E |

Inland waterways transport (ADN)

| | |
|--|----------------|
| 14.1. UN number or ID number: | UN 1866 |
| 14.2. UN proper shipping name: | Resin solution |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | I |
| Hazard label: | 3 |
| Classification code: | F1 |

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Limited quantity: 500 mL
 Excepted quantity: E3

Marine transport (IMDG)

14.1. UN number or ID number: UN 1866
14.2. UN proper shipping name: RESIN SOLUTION
14.3. Transport hazard class(es): 3
14.4. Packing group: I
 Hazard label: 3
 Special Provisions: -
 Limited quantity: 500 mL
 Excepted quantity: E3
 EmS: F-E, S-E

Other applicable information (marine transport)

Flash point: 12°C c.c.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1866
14.2. UN proper shipping name: RESIN SOLUTION
14.3. Transport hazard class(es): 3
14.4. Packing group: I
 Hazard label: 3
 Special Provisions: A3
 Limited quantity Passenger: Forbidden
 Passenger LQ: Forbidden
 Excepted quantity: E3
 IATA-packing instructions - Passenger: 351
 IATA-max. quantity - Passenger: 1 L
 IATA-packing instructions - Cargo: 361
 IATA-max. quantity - Cargo: 30 L

14.6. Special precautions for user

Warning: Combustible liquid.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
 Water hazard class (D): 2 - obviously hazardous to water
 Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

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

SECTION 16: Other information

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Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(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
SVHC: Substance of Very High Concern
Flam. Liq: Flammable liquid
Skin Irrit: Skin irritation
Eye Irrit: Eye irritation
Skin Sens: Skin sensitisation
Repr: Reproductive toxicity
STOT SE: Specific target organ toxicity - single exposure
Aquatic Chronic: Chronic aquatic hazard

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

| Classification | Classification procedure |
|-------------------------|--------------------------|
| Flam. Liq. 2; H225 | On basis of test data |
| Skin Irrit. 2; H315 | Calculation method |
| Eye Irrit. 2; H319 | Calculation method |
| Skin Sens. 1; H317 | Calculation method |
| STOT SE 3; H335 | Calculation method |
| Aquatic Chronic 3; H412 | Calculation method |

Relevant H and EUH statements (number and full text)

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| | |
|--------|--|
| H225 | Highly flammable liquid and vapour. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |
| EUH210 | Safety data sheet available on request. |

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.)

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

1.1. Product identifier

freeform® fixgel

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

Use of the substance/mixture

Light curing one-component material for repair and reinforcement of individual dental moulding parts.

1.3. Details of the supplier of the safety data sheet

| | | |
|-------------------------|---|---------------------------|
| Company name: | DETAX GmbH | |
| Street: | Carl-Zeiss-Straße 4 | |
| Place: | D-76275 Ettlingen | |
| Telephone: | +49 7243/510-0 | Telefax: +49 7243/510-100 |
| e-mail: | post@detax.com | |
| Internet: | www.detax.com | |
| Responsible Department: | This number is only obtainable during office hours (Monday - Thursday 8.00 a.m. - 5.00 p.m., Friday 8.00 a.m. - 4.00 p.m.) | |

1.4. Emergency telephone number:

+1-800-424-9300 (CHEMTREC worldwide)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1907/2006

Skin Sens. 1; H317
 Repr. 1B; H360
 Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No. 1907/2006

Hazard components for labelling

7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate
 tetrahydrofurfuryl methacrylate THFMA purified grade
 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Signal word: Danger

Pictograms:



Hazard statements

| | |
|------|--|
| H317 | May cause an allergic skin reaction. |
| H360 | May damage fertility or the unborn child. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statements

| | |
|-----------|---|
| P201 | Obtain special instructions before use. |
| 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. |
| P391 | Collect spillage. |

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Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture of acrylic/ methacrylic resins with auxilliary matters.

Hazardous components

| CAS No | Chemical name | | | Quantity |
|------------|--|--------------|------------------|-------------|
| | EC No | Index No | REACH No | |
| | Classification (Regulation (EC) No. 1907/2006) | | | |
| 72869-86-4 | 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate | | | 60 - < 80 % |
| | 276-957-5 | | 01-2120751202-68 | |
| | Skin Sens. 1B, Aquatic Chronic 2; H317 H411 | | | |
| 2455-24-5 | tetrahydrofurfuryl methacrylate THFMA purified grade | | | 5 - < 20 % |
| | 219-529-5 | | 01-2120748481-53 | |
| | Repr. 1B, Skin Sens. 1, Aquatic Chronic 3; H360 H317 H412 | | | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | 0.1 - < 5 % |
| | 278-355-8 | 015-203-00-X | 01-2119972295-29 | |
| | Repr. 2, Skin Sens. 1B, Aquatic Chronic 2; H361 H317 H411 | | | |
| 97-99-4 | tetrahydrofurfuryl alcohol | | | 0.1 - < 5 % |
| | 202-625-6 | 603-061-00-7 | 01-2119968921-26 | |
| | Repr. 1B, Eye Irrit. 2; H360 H319 | | | |

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 | | |
| 72869-86-4 | 276-957-5 | 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate | 60 - < 80 % |
| | dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg | | |
| 75980-60-8 | 278-355-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 0.1 - < 5 % |
| | dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg | | |
| 97-99-4 | 202-625-6 | tetrahydrofurfuryl alcohol | 0.1 - < 5 % |
| | oral: LD50 = 1600 mg/kg | | |

SECTION 4: First aid measures

4.1. Description of first aid measures

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.

After contact with eyes

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an

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ophthalmologist.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Seek immediately medical advice. Do not induce vomiting. In case of spontaneous vomiting take care of an unhindered flow out of the vomit (danger of suffocation).

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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture

Non-flammable.

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.

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.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

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

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.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

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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.

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 exhaust at critical locations.

Hints on joint storage

Keep away from spontaneous flammable or combustible substances.

Further information on storage conditions

Keep only in the original container in a cool, dry and well-ventilated place, away from foodstuffs. Keep away from all kind of lighth. An inert gas blanket should not be applied, because the stability of the product depends on the presence of oxygen (air).

7.3. Specific end use(s)

Lighth curing material for processing of dental moulded parts.
For use by trained specialist staff.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

| CAS No | Substance | | | |
|--------------------------|---|----------|-------------------------|--|
| DNEL type | Exposure route | Effect | Value | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | |
| Worker DNEL, long-term | inhalation | systemic | 0,822 mg/m ³ | |
| Worker DNEL, long-term | dermal | systemic | 0,233 mg/kg bw/day | |
| 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 | |

8.2. Exposure controls

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection.

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.

Suitable are gloves of the following material: Butyl caoutchouc (butyl rubber)

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Skin protection

Use of protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | | |
|---|--|------------------------|--------------------|
| Physical state: | Liquid | | |
| Colour: | several shades, according to the product name | | |
| Odour: | faintly like esters | | |
| | | | Test method |
| Melting point/freezing point: | | not determined | |
| Boiling point or initial boiling point and boiling range: | | 93 °C | |
| Flammability | | | |
| Solid/liquid: | | not applicable | |
| Gas: | | not applicable | |
| Lower explosion limits: | | not determined | |
| Upper explosion limits: | | not determined | |
| Flash point: | | >100 °C | DIN 51755 |
| Auto-ignition temperature: | | 250 °C | |
| Decomposition temperature: | | >=190 °C | |
| pH-Value: | | not determined | |
| Water solubility: | The study does not need to be conducted because the substance is known to be insoluble in water. | | |
| Solubility in other solvents | not determined | | |
| Partition coefficient n-octanol/water: | | not determined | |
| Vapour pressure: | | <1 hPa | |
| (at 20 °C) | | | |
| Density (at 20 °C): | | 1,09 g/cm ³ | DIN 51757 |
| 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

Reacts with : strong oxidising agents, strong alkaline or acidic materials.

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10.4. Conditions to avoid

Ultra-violet light and daylight initiate polymerisation of the product. Therefore keep only in tightly closed containers away from any sources of light at 15°C - 28°C / 59°F - 82 °F.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

In case of fire, acrid acrylic fumes may occur.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No. 1907/2006

Acute toxicity

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

For the product itself no toxicological data are available. In products with a comparable composition, a LD50 (orally, species rat) of > 5000 mg/kg has been found.

| CAS No | Chemical name | | | | |
|------------|--|------------------|---------|----------|--------|
| | Exposure route | Dose | Species | Source | Method |
| 72869-86-4 | 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate | | | | |
| | oral | LD50 >5000 mg/kg | Rat | OECD 401 | |
| | dermal | LD50 >2000 mg/kg | Rat | OECD 402 | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | | |
| | oral | LD50 >5000 mg/kg | Rat | | |
| | dermal | LD50 >2000 mg/kg | Rat | | |
| 97-99-4 | tetrahydrofurfuryl alcohol | | | | |
| | oral | LD50 1600 mg/kg | Rat | | |

Irritation and corrosivity

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

Sensitising effects

May cause an allergic skin reaction. (7,7,9(or 7,9,9)

-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate; tetrahydrofurfuryl methacrylate THFMA purified grade; diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide)

Carcinogenic/mutagenic/toxic effects for reproduction

May damage fertility or the unborn child. (tetrahydrofurfuryl methacrylate THFMA purified grade; tetrahydrofurfuryl alcohol)

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

Carcinogenicity: 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

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

Aspiration hazard

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

Further information

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

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SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects. For the product itself no toxicological data are available. In products with a comparable composition, a LD50 (orally, species rat) of more than 5.000 mg/kg has been found.

| CAS No | Chemical name | | | | | |
|------------|--|----------------|-----------|---------|---------------------------------|----------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 72869-86-4 | 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate | | | | | |
| | Acute fish toxicity | LC50 mg/l | 10,1 | 96 h | | OECD 203 |
| | Acute algae toxicity | ErC50 mg/l | 0,21 | 72 h | | OECD 201 |
| | Acute crustacea toxicity | EC50 mg/l | >1,2 | 48 h | Daphnia magna (Big water flea) | OECD 202 |
| 2455-24-5 | tetrahydrofurfuryl methacrylate THFMA purified grade | | | | | |
| | Acute fish toxicity | LC50 mg/l | 34,7 | 96 h | | GESTIS |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | | | |
| | Acute algae toxicity | ErC50 mg/l | >2,01 | 72 h | Pseudokirchneriella subcapitata | |
| | Acute crustacea toxicity | EC50 mg/l | 3,53 | 48 h | Daphnia magna (Big water flea) | |
| | Acute bacteria toxicity | (EC50 mg/l) | >1000 | 3 h | Activated sludge | |

12.2. Persistence and degradability

The product has not been tested.

| CAS No | Chemical name | | | | |
|------------|--|-------|----|--------|--|
| | Method | Value | d | Source | |
| | Evaluation | | | | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | | |
| | | 0-10% | 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 |
|------------|--|---------|
| 72869-86-4 | 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate | 3,39 |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 3,1 |

BCF

| CAS No | Chemical name | BCF | Species | Source |
|------------|---|-------|-------------------------------|--------|
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 47-55 | Cyprinus carpio (Common Carp) | |

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

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

Not identified as PBT/ vPvB substances

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 meets 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)

| | |
|---|---|
| <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. |
| <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 |
| Transport category: | 3 |
| Hazard No: | 90 |
| Tunnel restriction code: | - |

Other applicable information (land transport)

Contains: 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate

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. Contains: 7,7,9(or 7,9,9) -trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate |
| <u>14.3. Transport hazard class(es):</u> | 9 |
| <u>14.4. Packing group:</u> | III |
| Hazard label: | 9 |
| Marine pollutant: | YES |
| Special Provisions: | 274, 335, 969 |
| Limited quantity: | 5 L/ 30 kg |
| Excepted quantity: | E1 |
| EmS: | F-A, S-F |

Other applicable information (marine transport)

Contains: 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate

Flash point: > 100°C

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Air transport (ICAO-TI/IATA-DGR)

| | |
|--|--|
| 14.1. UN number or ID number: | UN 3082 |
| 14.2. UN proper shipping name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. Contains: 7,7,9(or 7,9,9) -trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahehexadecane-1,16-diylbismethacrylate |
| 14.3. Transport hazard class(es): | 9 |
| 14.4. Packing group: | 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 |
| IATA-max. quantity - Passenger: | 450 L |
| IATA-packing instructions - Cargo: | 964 |
| IATA-max. quantity - Cargo: | 450 L |

Other applicable information (air transport)

Contains: 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahehexadecane-1,16-diylbismethacrylate

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 30, Entry 75

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.

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 (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

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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
 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
 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 Regulation (EC) No. 1907/2006

| Classification | Classification procedure |
|-------------------------|--------------------------|
| Skin Sens. 1; H317 | Calculation method |
| Repr. 1B; H360 | Calculation method |
| Aquatic Chronic 2; H411 | Calculation method |

Relevant H and EUH statements (number and full text)

H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H360 May damage fertility or the unborn child.
 H361 Suspected of damaging fertility or the unborn child.
 H411 Toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.

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.

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Identified uses

| No | Short title | LCS | SU | PC | PROC | ERC | AC | TF | Specification |
|----|-------------|-----|----|----|------|-----|----|----|---------------|
| 1 | Gewerblich | - | - | - | - | - | - | - | 2 |

LCS: Life cycle stages

SU: Sectors of use

PC: Product categories

PROC: Process categories

ERC: Environmental release categories

AC: Article categories

TF: Technical functions

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

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

1.1. Product identifier

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

Use of the substance/mixture

Ligth curing one-component material for manufacturing of individual moulded parts

1.3. Details of the supplier of the safety data sheet

| | | |
|-------------------------|---|---------------------------|
| Company name: | DETAX GmbH | |
| Street: | Carl-Zeiss-Straße 4 | |
| Place: | D-76275 Ettlingen | |
| Telephone: | +49 7243/510-0 | Telefax: +49 7243/510-100 |
| e-mail: | post@detax.com | |
| Internet: | www.detax.com | |
| Responsible Department: | This number is only obtainable during office hours (Monday - Thursday 8.00 a.m. - 5.00 p.m., Friday 8.00 a.m. - 4.00 p.m.) | |

1.4. Emergency telephone number:

+1-800-424-9300 (CHEMTREC worldwide)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1907/2006

 Skin Sens. 1; H317
 Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

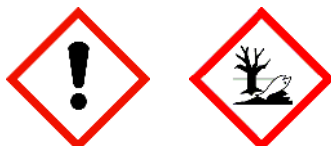
Regulation (EC) No. 1907/2006

Hazard components for labelling

 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate
 Tricyclodecane dimethanol diacrylate
 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Signal word: Warning

Pictograms:



Hazard statements

| | |
|------|--|
| H317 | May cause an allergic skin reaction. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statements

| | |
|-----------|---|
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |
| P302+P352 | IF ON SKIN: Wash with plenty of water. |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| P391 | Collect spillage. |

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P501

Dispose of contents/ container in accordance with local and national regulations.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture of acrylic/ methacrylic resins with auxilliary matters.

Hazardous components

| CAS No | Chemical name | | | Quantity |
|------------|--|--------------|------------------|-------------|
| | EC No | Index No | REACH No | |
| | Classification (Regulation (EC) No. 1907/2006) | | | |
| 72869-86-4 | 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate | | | 60 - < 80 % |
| | 276-957-5 | | 01-2120751202-68 | |
| | Skin Sens. 1B, Aquatic Chronic 2; H317 H411 | | | |
| 42594-17-2 | Tricyclodecane dimethanol diacrylate | | | 5 - < 20 % |
| | 255-901-3 | | 01-2120051112-76 | |
| | Skin Sens. 1B, Aquatic Chronic 2; H317 H411 | | | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | 0.1 - < 5 % |
| | 278-355-8 | 015-203-00-X | 01-2119972295-29 | |
| | Repr. 2, Skin Sens. 1B, Aquatic Chronic 2; H361 H317 H411 | | | |

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 | | |
| 72869-86-4 | 276-957-5 | 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate | 60 - < 80 % |
| | dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg | | |
| 42594-17-2 | 255-901-3 | Tricyclodecane dimethanol diacrylate | 5 - < 20 % |
| | dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg | | |
| 75980-60-8 | 278-355-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 0.1 - < 5 % |
| | dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg | | |

SECTION 4: First aid measures

4.1. Description of first aid measures

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.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink 1 glass of water.

Seek immediately medical advice. Do not induce vomiting. In case of spontaneous vomiting take care of an unhindered flow out of the vomit (danger of suffocation).

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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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture

Non-flammable.

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.

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.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For cleaning up

Take up mechanically. 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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

No special measures are necessary.

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 or drink.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

Hints on joint storage

Keep away from spontaneous flammable or combustible substances.

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Further information on storage conditions

Keep only in the original container in a dry and well-ventilated place, away from foodstuffs. Keep away from all kind of light. An inert gas blanket should not be applied, because the stability of the product depends on the presence of oxygen (air).

7.3. Specific end use(s)

Light curing material for manufacturing of dental moulded parts; for use by trained special staff.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

| CAS No | Substance | Exposure route | Effect | Value |
|--------------------------|---|----------------|----------|-------------------------|
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | |
| Worker DNEL, long-term | | inhalation | systemic | 0,822 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 0,233 mg/kg bw/day |
| 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 |

8.2. Exposure controls

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection.

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.

Suitable are gloves of the following material: Butyl caoutchouc (butyl rubber)

Skin protection

Use of protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
 Colour: several shades, according to the product name
 Odour: faintly like esters

Test method

Melting point/freezing point: not determined
 Boiling point or initial boiling point and boiling range: >150 °C
 Flammability
 Solid/liquid: not determined

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| | |
|--|----------------------------------|
| Gas: | not applicable |
| Lower explosion limits: | not determined |
| Upper explosion limits: | not determined |
| Flash point: | >100 °C DIN 51755 |
| Auto-ignition temperature: | 445 °C |
| Decomposition temperature: | >190 °C |
| pH-Value: | not determined |
| Water solubility: | practically insoluble |
| Solubility in other solvents: | not determined |
| Partition coefficient n-octanol/water: | not determined |
| Vapour pressure: (at 20 °C) | <1 hPa |
| Density (at 20 °C): | 1,09 g/cm ³ DIN 51757 |
| 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

Reacts with : strong oxidising agents, strong alkaline or acidic materials.

10.4. Conditions to avoid

oxidising agents, radicals forming substances or heavy metal ions. Ultra-violet light and daylight initiate polymerisation of the product. Therefore keep only in tightly closed containers away from any sources of light at 15°C - 28°C / 59°F - 82 °F.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

In case of fire, acrid acrylic fumes may occur.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No. 1907/2006

Acute toxicity

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

For the product itself no toxicological data are available. In products with a comparable composition, a LD50 (orally, species rat) of > 5000 mg/kg has been found.

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| CAS No | Chemical name | | | | |
|------------|--|------------------|---------|----------|--------|
| | Exposure route | Dose | Species | Source | Method |
| 72869-86-4 | 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate | | | | |
| | oral | LD50 >5000 mg/kg | Rat | OECD 401 | |
| | dermal | LD50 >2000 mg/kg | Rat | OECD 402 | |
| 42594-17-2 | Tricyclodecane dimethanol diacrylate | | | | |
| | oral | LD50 >2000 mg/kg | Rat | OECD 423 | |
| | dermal | LD50 >2000 mg/kg | Rat | OECD 402 | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | | |
| | oral | LD50 >5000 mg/kg | Rat | | |
| | dermal | LD50 >2000 mg/kg | Rat | | |

Irritation and corrosivity

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

Sensitising effects

May cause an allergic skin reaction. (7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate; Tricyclodecane dimethanol diacrylate; diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide)

Carcinogenic/mutagenic/toxic effects for reproduction

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

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

Aspiration hazard

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

Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

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 |
| 72869-86-4 | 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate | | | | | |
| | Acute fish toxicity | LC50 mg/l | 10,1 | 96 h | | OECD 203 |
| | Acute algae toxicity | ErC50 mg/l | 0,21 | 72 h | | OECD 201 |
| | Acute crustacea toxicity | EC50 mg/l | >1,2 | 48 h | Daphnia magna (Big water flea) | OECD 202 |
| 42594-17-2 | Tricyclodecane dimethanol diacrylate | | | | | |
| | Acute fish toxicity | LC50 mg/l | 1,65 | 96 h | Danio rerio (zebrafish) | OECD 203 |
| | Acute algae toxicity | ErC50 | 1,6 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD 201 |
| | Acute crustacea toxicity | EC50 mg/l | 2,36 | 48 h | Daphnia magna (Big water flea) | OECD 202 |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | | | |
| | Acute algae toxicity | ErC50 mg/l | >2,01 | 72 h | Pseudokirchneriella subcapitata | |
| | Acute crustacea toxicity | EC50 mg/l | 3,53 | 48 h | Daphnia magna (Big water flea) | |
| | Acute bacteria toxicity | (EC50 mg/l) | >1000 | 3 h | Activated sludge | |

12.2. Persistence and degradability

The product has not been tested.

| CAS No | Chemical name | | | |
|------------|--|-------|----|--------|
| | Method | Value | d | Source |
| | Evaluation | | | |
| 42594-17-2 | Tricyclodecane dimethanol diacrylate | | | |
| | OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D | 28% | 28 | |
| | Not readily biodegradable (according to OECD criteria) | | | |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | | | |
| | | 0-10% | 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 |
|------------|--|---------|
| 72869-86-4 | 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate | 3,39 |
| 42594-17-2 | Tricyclodecane dimethanol diacrylate | 4,64 |
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 3,1 |

BCF

| CAS No | Chemical name | BCF | Species | Source |
|------------|---|-------|-------------------------------|--------|
| 75980-60-8 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 47-55 | Cyprinus carpio (Common Carp) | |

12.4. Mobility in soil

The product has not been tested.

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12.5. Results of PBT and vPvB assessment

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

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 meets 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

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

| | |
|---|---|
| <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. |
| <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 |
| Transport category: | 3 |
| Hazard No: | 90 |
| Tunnel restriction code: | - |

Other applicable information (land transport)

Contains: 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate

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. |
| <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. |
| <u>14.3. Transport hazard class(es):</u> | 9 |

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| | |
|-----------------------------|---------------|
| 14.4. Packing group: | III |
| Hazard label: | 9 |
| Special Provisions: | 274, 335, 969 |
| Limited quantity: | 5 L |
| Excepted quantity: | E1 |
| EmS: | F-A, S-F |

Other applicable information (marine transport)

Contains: 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate
Flash point: > 100°C

Air transport (ICAO-TI/IATA-DGR)

| | |
|--|---|
| 14.1. UN number or ID number: | UN 3082 |
| 14.2. UN proper shipping name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| 14.3. Transport hazard class(es): | 9 |
| 14.4. Packing group: | III |
| Hazard label: | 9 |
| Special Provisions: | A97 A158 A197 A215 |
| Limited quantity Passenger: | 30 kg G |
| Passenger LQ: | Y964 |
| Excepted quantity: | E1 |
| IATA-packing instructions - Passenger: | 964 |
| IATA-max. quantity - Passenger: | 450 L |
| IATA-packing instructions - Cargo: | 964 |
| IATA-max. quantity - Cargo: | 450 L |

Other applicable information (air transport)

Contains: 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diylbismethacrylate

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 75

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).

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

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

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
 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 Regulation (EC) No. 1907/2006

| Classification | Classification procedure |
|-------------------------|--------------------------|
| Skin Sens. 1; H317 | Calculation method |
| Aquatic Chronic 2; H411 | Calculation method |

Relevant H and EUH statements (number and full text)

| | |
|------|--|
| H317 | May cause an allergic skin reaction. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H411 | Toxic to aquatic life with long lasting effects. |

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.

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Identified uses

| No | Short title | LCS | SU | PC | PROC | ERC | AC | TF | Specification |
|----|-------------|-----|----|----|------|-----|----|----|---------------|
| 1 | Gewerblich | - | - | - | - | - | - | - | 2 |

LCS: Life cycle stages

SU: Sectors of use

PC: Product categories

PROC: Process categories

ERC: Environmental release categories

AC: Article categories

TF: Technical functions

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