

Value Resin

Version number: SDS 4.0
Replaces version of: 2022-12-21 (SDS 3)

Revision: 2023-03-12

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

1.1 Product identifier

| | |
|---------------------------------|------------------------|
| Trade name | Value Resin |
| Registration number (REACH) | not relevant (mixture) |
| Unique formula identifier (UFI) | WND3-NDMQ-P23R-GXDP |

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

| | |
|---------------------------|-------------------|
| Relevant identified uses. | 3D printing resin |
|---------------------------|-------------------|

1.3 Details of the supplier of the safety data sheet

AprintaPro GmbH
Gutheil Schoder Gasse 17
1230 Wien
Austria

Telephone: +43 1 997809410
e-mail: office@aprintapro.com
Website: <https://www.aprintapro.com>

| | |
|---------------------------|-----------------------|
| e-mail (competent person) | office@aprintapro.com |
|---------------------------|-----------------------|

1.4 Emergency telephone number

| | |
|-------------------------------|--|
| Emergency information service | +43 1 997809410 This number is only available during the following office hours: Mon-Fri 08:00 AM - 04:00 PM |
|-------------------------------|--|

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

| Section | Hazard class | Category | Hazard class and category | Hazard statement |
|---------|---|----------|---------------------------|------------------|
| 3.2 | skin corrosion/irritation | 2 | Skin Irrit. 2 | H315 |
| 3.3 | serious eye damage/eye irritation | 2 | Eye Irrit. 2 | H319 |
| 3.4S | skin sensitisation | 1 | Skin Sens. 1 | H317 |
| 4.1A | hazardous to the aquatic environment - acute hazard | 1 | Aquatic Acute 1 | H400 |
| 4.1C | hazardous to the aquatic environment - chronic hazard | 2 | Aquatic Chronic 2 | H411 |

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal word warning

- Pictograms

GHS07, GHS09



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- Hazard statements

| | |
|------|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H410 | Very toxic to aquatic life with long lasting effects. |

- Precautionary statements

| | |
|-----------|---|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102 | Keep out of reach of children. |
| P103 | Read carefully and follow all instructions. |
| P261 | Avoid breathing mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P302+P352 | IF ON SKIN: Wash with plenty of water. |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |

- Supplemental hazard information

| | |
|--------|--|
| EUH205 | Contains epoxy constituents. May produce an allergic reaction. |
|--------|--|

- Hazardous ingredients for labelling

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid, hexamethylene diacrylate, phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide, 2,2'-ethylenedioxydiethyl dimethacrylate, 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

| Name of substance | Identifier | Wt% | Classification acc. to GHS |
|--|----------------------------------|-----------|--|
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | CAS No 55818-57-0 | 50 – < 75 | Skin Sens. 1 / H317 Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411 |
| hexamethylene diacrylate | CAS No 13048-33-4 | 25 – < 50 | Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1 / H317 Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411 |
| 2,2'-ethylenedioxydiethyl dimethacrylate | CAS No 109-16-0 | < 2 | Skin Sens. 1B / H317 |
| phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | CAS No 162881-26-7 | < 2 | Skin Sens. 1A / H317 Aquatic Acute 1 / H400 Aquatic Chronic 4 / H413 |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane | CAS No 25068-38-6 | < 2 | Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1 / H317 Aquatic Chronic 2 / H411 |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | CAS No 16096-31-4 933999-84-9 | < 2 | Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1 / H317 Aquatic Chronic 3 / H412 |

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| Name of substance | Specific Conc. Limits | M-Factors | ATE | Exposure route |
|--|---|-----------------------|-----|----------------|
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | - | M-factor (acute) = 10 | - | |
| phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | - | M-factor (acute) = 10 | - | |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane | Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 % | - | - | |

For full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

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SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up**Advice on how to contain a spill**

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Recommendations**

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Occupational exposure limit values (Workplace Exposure Limits)
this information is not available

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| Relevant DNELs of components of the mixture | | | | | | |
|--|---------------------------|----------|-------------------------|------------------------------------|-------------------|----------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | DNEL | 1.17 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | DNEL | 33 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |
| hexamethylene diacrylate | 13048-33-4 | DNEL | 24.5 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| hexamethylene diacrylate | 13048-33-4 | DNEL | 2.77 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | DNEL | 48.5 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | DNEL | 13.9 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | DNEL | 10.57 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | DNEL | 10.57 mg/m ³ | human, inhalatory | worker (industry) | acute - systemic effects |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | DNEL | 0.44 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | DNEL | 6 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | DNEL | 22.6 µg/cm ² | human, dermal | worker (industry) | chronic - local effects |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | DNEL | 22.6 µg/cm ² | human, dermal | worker (industry) | acute - local effects |

| Relevant PNECs of components of the mixture | | | | | | |
|--|------------|----------|-----------------|-------------------|------------------------------|------------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Organism | Environmental compartment | Exposure time |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | PNEC | 0.025 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | PNEC | 0.003 mg/l | aquatic organisms | marine water | short-term (single instance) |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | PNEC | 10 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |

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| Relevant PNECs of components of the mixture | | | | | | |
|--|---------------------------|----------|-----------------|-----------------------|------------------------------|------------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Organism | Environmental compartment | Exposure time |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | PNEC | 8.96 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | PNEC | 0.896 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | PNEC | 1.78 mg/kg | terrestrial organisms | soil | short-term (single instance) |
| hexamethylene diacrylate | 13048-33-4 | PNEC | 0.007 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| hexamethylene diacrylate | 13048-33-4 | PNEC | 0.001 mg/l | aquatic organisms | marine water | short-term (single instance) |
| hexamethylene diacrylate | 13048-33-4 | PNEC | 2.7 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| hexamethylene diacrylate | 13048-33-4 | PNEC | 0.493 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| hexamethylene diacrylate | 13048-33-4 | PNEC | 0.049 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |
| hexamethylene diacrylate | 13048-33-4 | PNEC | 0.094 mg/kg | terrestrial organisms | soil | short-term (single instance) |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | PNEC | 0.016 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | PNEC | 0.002 mg/l | aquatic organisms | marine water | short-term (single instance) |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | PNEC | 1.7 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | PNEC | 0.185 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | PNEC | 0.018 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | PNEC | 0.027 mg/kg | terrestrial organisms | soil | short-term (single instance) |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | PNEC | 0.011 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | PNEC | 0.001 mg/l | aquatic organisms | marine water | short-term (single instance) |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | PNEC | 1 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | PNEC | 0.283 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | PNEC | 0.028 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | PNEC | 0.223 mg/kg | terrestrial organisms | soil | short-term (single instance) |

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8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. 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.

- Type of material

Nitrile

- Material thickness

≥0,35mm

- Breakthrough times of the glove material

>60 minutes (permeation: level 3)

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Filtering half mask (EN 149). P1 (filters at least 80 % of airborne particles, colour code: White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | liquid |
| Colour | acc. to product description |
| Odour | characteristic |
| Melting point/freezing point | not determined |
| Boiling point or initial boiling point and boiling range | 98.82 °C at 0.71 mbar |
| Flammability | this material is combustible, but will not ignite readily |
| Lower and upper explosion limit | not determined |
| Flash point | not determined |
| Auto-ignition temperature | 235 °C (auto-ignition temperature (liquids and gases)) |
| Decomposition temperature | not relevant |
| PH (value) | 6.8 – 7.2 (in aqueous solution: 100 % (w/w), 25 °C) |
| Kinematic viscosity | not determined |
| Solubility(ies) | not determined |
| Partition coefficient | |
| Partition coefficient n-octanol/water (log value) | this information is not available |
| Vapour pressure | 0.001 hPa at 20 °C |

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Density and/or relative density

Density 1.1 ^g/_{cm³} at 20 °C
 Relative vapour density information on this property is not available

Particle characteristics not relevant (liquid)

9.2 Other information

Information with regard to physical hazard classes hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics

Temperature class (EU, acc. to ATEX) T3 (maximum permissible surface temperature on the equipment: 200°C)

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

If heated:

Exothermic polymerisation

If exposed to light:

Exothermic polymerisation.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

UV-radiation/sunlight.

10.5 Incompatible materials

Oxidisers, Reducing agents

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.
 Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

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

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

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Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

| Aquatic toxicity (acute) of components of the mixture | | | | | |
|--|-------------|----------|-------------|-----------------------|---------------|
| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | LL50 | >100 mg/l | fish | 96 h |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | LC50 | >0.082 mg/l | fish | 96 h |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | EC50 | >16 mg/l | aquatic invertebrates | 48 h |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | EL50 | 105 mg/l | algae | 72 h |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | ErC50 | 17 mg/l | algae | 72 h |
| hexamethylene diacrylate | 13048-33-4 | LC50 | 0.38 mg/l | fish | 96 h |
| hexamethylene diacrylate | 13048-33-4 | EC50 | 8.3 mg/l | aquatic invertebrates | 24 h |
| hexamethylene diacrylate | 13048-33-4 | ErC50 | 2.33 mg/l | algae | 72 h |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | LC50 | 23.1 mg/l | fish | 24 h |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | ErC50 | >100 mg/l | algae | 72 h |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | EC50 | 72.8 mg/l | algae | 72 h |
| phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | 162881-26-7 | LC50 | >90 µg/l | fish | 96 h |
| phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | 162881-26-7 | EC50 | >1,175 µg/l | aquatic invertebrates | 48 h |
| phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | 162881-26-7 | ErC50 | >260 µg/l | algae | 72 h |

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| Aquatic toxicity (acute) of components of the mixture | | | | | |
|---|---------------------------|----------|-----------|---------|---------------|
| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | LC50 | 30 mg/l | fish | 96 h |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | EC50 | 23.1 mg/l | algae | 48 h |

| Aquatic toxicity (chronic) of components of the mixture | | | | | |
|--|-------------|----------|-------------|-----------------------|---------------|
| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | EC50 | >1,000 mg/l | microorganisms | 3 h |
| hexamethylene diacrylate | 13048-33-4 | LC50 | 0.47 mg/l | aquatic invertebrates | 21 d |
| hexamethylene diacrylate | 13048-33-4 | EC50 | 0.15 mg/l | aquatic invertebrates | 21 d |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | EC50 | 51.9 mg/l | aquatic invertebrates | 21 d |
| phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | 162881-26-7 | EC50 | >100 mg/l | microorganisms | 3 h |

12.2 Persistence and degradability

| Degradability of components of the mixture | | | | | | |
|--|---------------------------|---------------------------|------------------|------|--------|--------|
| Name of substance | CAS No | Process | Degradation rate | Time | Method | Source |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | oxygen depletion | 42 % | 28 d | | ECHA |
| hexamethylene diacrylate | 13048-33-4 | carbon dioxide generation | 60 – 70 % | 28 d | | ECHA |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | carbon dioxide generation | 85 % | 28 d | | ECHA |
| phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | 162881-26-7 | carbon dioxide generation | 1 % | 29 d | | ECHA |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | oxygen depletion | 47 % | 28 d | | ECHA |

12.3 Bioaccumulative potential

Data are not available.

| Bioaccumulative potential of components of the mixture | | | | |
|--|-------------|-----|----------------------------------|----------|
| Name of substance | CAS No | BCF | Log KOW | BOD5/COD |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | 55818-57-0 | | 1.6 – 3.8 (pH value: 6.4, 23 °C) | |
| hexamethylene diacrylate | 13048-33-4 | | 2.81 (25 °C) | |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | | 2.3 | |
| phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | 162881-26-7 | <5 | 5.8 (pH value: 8.3, 22 °C) | |

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| Bioaccumulative potential of components of the mixture | | | | |
|---|---------------------------|------|---------------|----------|
| Name of substance | CAS No | BCF | Log KOW | BOD5/COD |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | 16096-31-4 933999-84-9 | 3.57 | 0.822 (20 °C) | |

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number

| | |
|-------------|---------|
| ADR/RID/ADN | UN 3082 |
| IMDG-Code | UN 3082 |
| ICAO-TI | UN 3082 |

14.2 UN proper shipping name

| | |
|--|--|
| ADR/RID/ADN | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| IMDG-Code | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| ICAO-TI | Environmentally hazardous substance, liquid, n.o.s. |
| Technical name (hazardous ingredients) | 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid, hexamethylene diacrylate |

14.3 Transport hazard class(es)

| | |
|-------------|---|
| ADR/RID/ADN | 9 |
| IMDG-Code | 9 |
| ICAO-TI | 9 |

14.4 Packing group




| | |
|-------------|-----|
| ADR/RID/ADN | III |
| IMDG-Code | III |

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| | |
|--|---|
| ICAO-TI | III |
| 14.5 Environmental hazards | hazardous to the aquatic environment |
| Environmentally hazardous substance (aquatic environment) | 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid, hexamethylene diacrylate |
| 14.6 Special precautions for user | |
| Provisions for dangerous goods (ADR) should be complied within the premises. | |
| 14.7 Maritime transport in bulk according to IMO instruments | |
| The cargo is not intended to be carried in bulk. | |
| 14.8 Information for each of the UN Model Regulations | |
| Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information | |
| Classification code | M6 |
| Danger label(s) | 9, fish and tree |
|  | |
| Environmental hazards | yes (hazardous to the aquatic environment) |
| Special provisions (SP) | 274, 335, 375, 601 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 L |
| Transport category (TC) | 3 |
| Tunnel restriction code (TRC) | - |
| Hazard identification No | 90 |
| Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information | |
| Classification code | M6 |
| Danger label(s) | 9, fish and tree |
|  | |
| Environmental hazards | yes (hazardous to water) |
| Special provisions (SP) | 274, 335, 375, 601 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 L |
| Transport category (TC) | 3 |
| Hazard identification No | 90 |
| International Maritime Dangerous Goods Code (IMDG) - Additional information | |
| Marine pollutant | yes (hazardous to the aquatic environment) (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid) |
| Danger label(s) | 9, fish and tree |
|  | |
| Special provisions (SP) | 274, 335, 969 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 L |
| EmS | F-A, S-F |
| Stowage category | A |

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International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Environmental hazards yes (hazardous to the aquatic environment)

Danger label(s) 9, fish and tree



Special provisions (SP) A97, A158, A197, A215

Excepted quantities (EQ) E1

Limited quantities (LQ) 30 kg

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

| Dangerous substances with restrictions (REACH, Annex XVII) | | | |
|--|--|--------|----|
| Name of substance | Name acc. to inventory | CAS No | No |
| Value Resin | this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC | | 3 |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | substances in tattoo inks and permanent make-up | | 75 |
| 2,2'-ethylenedioxydiethyl dimethacrylate | substances in tattoo inks and permanent make-up | | 75 |
| phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | substances in tattoo inks and permanent make-up | | 75 |
| hexamethylene diacrylate | substances in tattoo inks and permanent make-up | | 75 |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane | substances in tattoo inks and permanent make-up | | 75 |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | substances in tattoo inks and permanent make-up | | 75 |

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

none of the ingredients are listed

Seveso Directive

| 2012/18/EU (Seveso III) | | | |
|-------------------------|--|---|-------|
| No | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
| E1 | environmental hazards (hazardous to the aquatic environment, cat. 1) | 100 200 | 56) |

Notation

56) hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

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Water Framework Directive (WFD)

| List of pollutants (WFD) | | | |
|--|--------|-----------|---------|
| Name of substance | CAS No | Listed in | Remarks |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | | a) | |
| phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | | a) | |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane | | a) | |
| Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) | | a) | |

Legend

A) Indicative list of the main pollutants

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National inventories

| Country | Inventory | Status |
|---------|------------|--------------------------------|
| AU | AIIC | all ingredients are listed |
| CA | DSL | all ingredients are listed |
| CN | IECSC | all ingredients are listed |
| EU | ECSI | all ingredients are listed |
| EU | REACH Reg. | all ingredients are listed |
| JP | CSCL-ENCS | not all ingredients are listed |
| JP | ISHA-ENCS | not all ingredients are listed |
| KR | KECI | all ingredients are listed |
| MX | INSQ | not all ingredients are listed |
| NZ | NZIoC | all ingredients are listed |
| PH | PICCS | all ingredients are listed |
| TR | CICR | not all ingredients are listed |
| TW | TCSI | all ingredients are listed |
| US | TSCA | all ingredients are listed |

Legend

AIIC Australian Inventory of Industrial Chemicals
CICR Chemical Inventory and Control Regulation
CSCL-ENCS List of Existing and New Chemical Substances (CSCL-ENCS)
DSL Domestic Substances List (DSL)
ECSI EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC Inventory of Existing Chemical Substances Produced or Imported in China
INSQ National Inventory of Chemical Substances
ISHA-ENCS Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI Korea Existing Chemicals Inventory
NZIoC New Zealand Inventory of Chemicals
PICCS Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg. REACH registered substances
TCSI Taiwan Chemical Substance Inventory
TSCA Toxic Substance Control Act

15.2 Chemical Safety Assessment

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

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SECTION 16: Other information

Indication of changes (revised safety data sheet)

| Section | Actual entry (text/value) |
|---------|---|
| 2.3 | Other hazards |
| 2.3 | Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$. |
| 2.3 | Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$. |
| 8.2 | Respiratory protection: In case of inadequate ventilation wear respiratory protection. Filtering half mask (EN 149). P1 (filters at least 80 % of airborne particles, colour code: White). |
| 12.5 | Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$. |
| 12.6 | Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$. |

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|-----------------|--|
| ADR | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road) |
| ADR/RID/ADN | Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN) |
| Aquatic Acute | Hazardous to the aquatic environment - acute hazard |
| Aquatic Chronic | Hazardous to the aquatic environment - chronic hazard |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |
| BOD | Biochemical Oxygen Demand |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| COD | Chemical oxygen demand |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| EL50 | Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| ErC50 | \equiv EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ERC50) relative to the control |
| Eye Dam. | Seriously damaging to the eye |
| Eye Irrit. | Irritant to the eye |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |

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| Abbr. | Descriptions of used abbreviations |
|-------------|--|
| ICAO | International Civil Aviation Organization |
| ICAO-TI | Technical instructions for the safe transport of dangerous goods by air |
| IMDG | International Maritime Dangerous Goods Code |
| IMDG-Code | International Maritime Dangerous Goods Code |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| LL50 | Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality |
| log KOW | n-Octanol/water |
| M-factor | Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| Skin Corr. | Corrosive to skin |
| Skin Irrit. | Irritant to skin |
| Skin Sens. | Skin sensitisation |
| SVHC | Substance of Very High Concern |
| vPvB | Very Persistent and very Bioaccumulative |

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|------|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H400 | Very toxic to aquatic life. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |
| H413 | May cause long lasting harmful effects to aquatic life. |

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Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.