

Safety Data Sheet according to (EC) No 1907/2006 as amended

LOCTITE EDAG PF 455B E&C known as ELECTRODAGPF-455B

Page 1 of 21

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

1.1. Product identifier

LOCTITE EDAG PF 455B E&C known as ELECTRODAGPF-455B

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

Intended use:

UV curable dielectric ink

1.3. Details of the supplier of the safety data sheet

Henkel Ltd Adhesives

Wood Lane End

HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

For Safety Data Sheet updates please visit our website https://mysds.henkel.com/index.html#/appSelection or www.henkel-adhesives.com.

SDSinfo.Adhesive@henkel.com

1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Skin irritation Category 2

H315 Causes skin irritation.

Serious eye irritation Category 2

H319 Causes serious eye irritation.

Specific target organ toxicity - single exposure Category 3

H335 May cause respiratory irritation.

Target organ: respiratory tract irritation

Chronic hazards to the aquatic environment Category 2

H411 Toxic to aquatic life with long lasting effects.

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Contains 2-[(3a,4,5,6,7,7a-Hexahydro-4,7-methano-1H-inden-6-yl)oxy]ethyl acrylate

Signal word: Warning

Hazard statement: H315 Causes skin irritation.

H319 Causes serious eye irritation. H335 May cause respiratory irritation.

H411 Toxic to aquatic life with long lasting effects.

Supplemental information Contains: Hydroxypropyl methacrylate; Isobornyl acrylate; 1,6-Hexanediol diacrylate

May produce an allergic reaction.

Precautionary statement: P261 Avoid breathing vapors.

Prevention P273 Avoid release to the environment.

Precautionary statement: P302+P352 IF ON SKIN: Wash with plenty of soap and water. **Response** P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

None if used properly.

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

Following substances are present in a concentration >= 0.1% and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in concentration ≥ the concentration limit that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Declaration of the ingredients according to CLP (EC) No 1272/2008:

| Hazardous components CAS-No. EC Number REACH-Reg No. | Concentration | Classification | Specific Conc. Limits, M- factors and ATEs | Add. Information |
|---|---------------|--|---|---------------------|
| 2-[(3a,4,5,6,7,7a-Hexahydro-4,7- methano-1H-inden-6- yl)oxy]ethyl acrylate 65983-31-5 265-991-6 | 25- 50 % | Skin Irrit. 2, Dermal, H315 Eye Irrit. 2, H319 STOT SE 3, Inhalation, H335 Aquatic Chronic 2, H411 | | |
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 231-272-0 01-2119472306-39 | 1-< 5% | Aquatic Chronic 3, H412 Acute Tox. 4, Oral, H302 | | |
| Polybutadiene acrylate | 1-< 5 % | Skin Irrit. 2, H315 Eye Irrit. 2, H319 | | |
| Isobornyl acrylate 5888-33-5 227-561-6 01-2119957862-25 | 0,1-< 1 % | Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 | M acute = 1 M chronic = 1 | |
| 1,6-Hexanediol diacrylate 13048-33-4 235-921-9 01-2119484737-22 | 0,01-< 0,1 % | Aquatic Acute 1, H400 Aquatic Chronic 2, H411 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1A, H317 | M acute = 1 | |
| Hydroxypropyl methacrylate 27813-02-1 248-666-3 01-2119490226-37 | 0,1-< 1 % | Skin Sens. 1, H317 Eye Irrit. 2, H319 | | |
| Butyl hydroxytoluene 128-37-0 204-881-4 01-2119565113-46 | 0,25-< 2,5 % | Aquatic Acute 1, H400 Aquatic Chronic 1, H410 | M acute = 1 M chronic = 1 | |
| Hydroquinone 123-31-9 204-617-8 01-2119524016-51 | 0,01-< 0,1 % | Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Carc. 2, H351 Muta. 2, H341 Acute Tox. 4, Oral, H302 Eye Dam. 1, H318 Skin Sens. 1, H317 | M acute = 10 M chronic = 1 M acute = 10 | |

For full text of the H - statements and other abbreviations see section 16 "Other information". Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Move to fresh air.

In case of adverse health effects seek medical advice.

Skin contact:

Rinse with running water and soap.

Obtain medical attention if irritation persists.

Eye contact:

Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:

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

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

SKIN: Redness, inflammation.

EYE: Irritation, conjunctivitis.

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

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Carbon dioxide, foam, powder

Water spray jet

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

The product may undergo spontaneous polymerization at high temperatures. Polymerization is exothermic and may cause damage to the container and/or release of thermal decomposition products.

Formation of toxic gases is possible during heating or in fires.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Additional information:

In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures

General information:

Danger of slipping on spilled product.

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Avoid skin and eye contact.

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid skin and eye contact.

Use only in well-ventilated areas.

See advice in section 8

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

7.2. Conditions for safe storage, including any incompatibilities

Store in sealed original container. Store in a cool, well-ventilated place.

Refer to Technical Data Sheet

7.3. Specific end use(s)

UV curable dielectric ink

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for

Great Britain

| Ingredient [Regulated substance] | ppm | mg/m ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|--|-----|-------------------|------------------------------|--|-----------------|
| Talc (Mg3H2(SiO3)4) 14807-96-6 [TALC, RESPIRABLE DUST] | | 1 | Time Weighted Average (TWA): | | EH40 WEL |
| 2,6-di-tert-Butyl-p-cresol 128-37-0 [2,6-DI-TERT-BUTYL-P-CRESOL] | | 10 | Time Weighted Average (TWA): | | EH40 WEL |
| Hydroquinone 123-31-9 [HYDROQUINONE] | | 0,5 | Time Weighted Average (TWA): | | EH40 WEL |

Occupational Exposure Limits

Valid for

Ireland

| Ingredient [Regulated substance] | ppm | mg/m³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|--|-----|-------|------------------------------|--|-----------------|
| Talc (Mg3H2(SiO3)4) 14807-96-6 [TALC] | | 10 | Time Weighted Average (TWA): | | IR_OEL |
| Talc (Mg3H2(SiO3)4) 14807-96-6 [TALC] | | 0,8 | Time Weighted Average (TWA): | | IR_OEL |
| 2,6-di-tert-Butyl-p-cresol 128-37-0 [2,6-DITERTIARY-BUTYL-PARA- CRESOL] | | 2 | Time Weighted Average (TWA): | | IR_OEL |
| Hydroquinone 123-31-9 [HYDROQUINONE] | | 0,5 | Time Weighted Average (TWA): | | IR_OEL |

$\label{eq:predicted} \textbf{Predicted No-Effect Concentration (PNEC):}$

| Name on list | Environmental Compartment | Exposure period | Value | | | | Remarks |
|---|------------------------------------|-----------------|----------------|-----|-----------------|--------|----------------------------------|
| | - | | mg/l | ppm | mg/kg | others | |
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | aqua (freshwater) | | 0,002 mg/l | | | | |
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | aqua (marine water) | | 0 mg/l | | | | |
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | aqua (intermittent releases) | | 0,019 mg/l | | | | |
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | Soil | | | | 0,001 mg/kg | | |
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | sewage treatment plant (STP) | | 45 mg/l | | | | |
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | sediment (freshwater) | | | | 0,009 mg/kg | | |
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | sediment (marine water) | | | | 0,001 mg/kg | | |
| Isobornyl acrylate 5888-33-5 | aqua (freshwater) | | 0,001 mg/l | | | | |
| Isobornyl acrylate 5888-33-5 | aqua (intermittent releases) | | 0,007 mg/l | | | | |
| Isobornyl acrylate 5888-33-5 | aqua (marine water) | | 0,0001 mg/l | | | | |
| Isobornyl acrylate 5888-33-5 | sewage treatment plant (STP) | | 2 mg/l | | | | |
| Isobornyl acrylate 5888-33-5 | sediment (freshwater) | | | | 0,145 mg/kg | | |
| Isobornyl acrylate 5888-33-5 | sediment (marine water) | | | | 0,0145 mg/kg | | |
| Isobornyl acrylate 5888-33-5 | Soil | | | | 0,0285 mg/kg | | |
| Isobornyl acrylate 5888-33-5 | Predator | | | | | | no potential for bioaccumulation |
| Hexamethylene diacrylate 13048-33-4 | aqua (freshwater) | | 0,007 mg/l | | | | |
| Hexamethylene diacrylate 13048-33-4 | aqua (marine water) | | 0,001 mg/l | | | | |
| Hexamethylene diacrylate 13048-33-4 | Soil | | | | 0,094 mg/kg | | |
| Hexamethylene diacrylate 13048-33-4 | sewage treatment plant (STP) | | 2,7 mg/l | | | | |
| Hexamethylene diacrylate 13048-33-4 | sediment (freshwater) | | | | 0,493 mg/kg | | |
| Hexamethylene diacrylate 13048-33-4 | sediment (marine water) | | | | 0,049 mg/kg | | |
| Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1 | aqua (freshwater) | | 0,904 mg/l | | | | |
| Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1 | aqua (marine water) | | 0,904 mg/l | | | | |
| Methacrylic acid, monoester with propane- 1,2-diol | sewage treatment plant | | 10 mg/l | | | | |
| 27813-02-1 Methacrylic acid, monoester with propane- | (STP) aqua | | 0,972 mg/l | | | | |
| 1,2-diol 27813-02-1 | (intermittent releases) | | | | (29 // | | |
| Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1 | sediment (freshwater) | | | | 6,28 mg/kg | | |
| Methacrylic acid, monoester with propane- 1,2-diol | sediment (marine water) | | | | 6,28 mg/kg | | |
| 27813-02-1 Methacrylic acid, monoester with propane- | Soil | | | | 0,727 | | |
| 1,2-diol 27813-02-1 | | | | | mg/kg | | |
| Methacrylic acid, monoester with propane- | Marine water - | | 0,972 mg/l | | | | |

| 1,2-diol 27813-02-1 | intermittent | | | |
|---|------------------------------------|------------------|------------------|----------------------------------|
| Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1 | Air | | | no hazard identified |
| Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1 | Predator | | | no potential for bioaccumulation |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | aqua (freshwater) | 0,000199 mg/l | | |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | aqua (marine water) | 0,00002 mg/l | | |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | sewage treatment plant (STP) | 0,17 mg/l | | |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | sediment (freshwater) | | 0,0996 mg/kg | |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | sediment (marine water) | | 0,00996 mg/kg | |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | Soil | | 0,04769 mg/kg | |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | oral | | 8,33 mg/kg | |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | aqua (intermittent releases) | 0,00199 mg/l | | |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | Air | | | no hazard identified |
| Hydroquinone 123-31-9 | aqua (freshwater) | 0,00057 mg/l | | |
| Hydroquinone 123-31-9 | aqua (marine water) | 0,000057 mg/l | | |
| Hydroquinone 123-31-9 | sediment (freshwater) | | 0,0049 mg/kg | |
| Hydroquinone 123-31-9 | sediment (marine water) | | 0,00049 mg/kg | |
| Hydroquinone 123-31-9 | aqua (intermittent releases) | 0,00134 mg/l | | |
| Hydroquinone 123-31-9 | Soil | | 0,00064 mg/kg | |
| Hydroquinone 123-31-9 | sewage treatment plant (STP) | 0,71 mg/l | | |

Derived No-Effect Level (DNEL):

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|---|-----------------------|----------------------|---|------------------|-------------|----------------------------------|
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | Workers | inhalation | Long term exposure - systemic effects | | 3,5 mg/m3 | |
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | Workers | dermal | Long term exposure - systemic effects | | 1 mg/kg | |
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | General population | inhalation | Long term exposure - systemic effects | | 0,9 mg/m3 | |
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | General population | dermal | Long term exposure - systemic effects | | 0,5 mg/kg | |
| 2-Hydroxy-2-methylpropiophenone 7473-98-5 | General population | oral | Long term exposure - systemic effects | | 0,4 mg/kg | |
| Isobornyl acrylate 5888-33-5 | Workers | dermal | Long term exposure - systemic effects | | 1,39 mg/kg | no potential for bioaccumulation |
| Isobornyl acrylate 5888-33-5 | General population | oral | Long term exposure - systemic effects | | 0,83 mg/kg | no potential for bioaccumulation |
| Isobornyl acrylate 5888-33-5 | General population | dermal | Long term exposure - systemic effects | | 0,83 mg/kg | no potential for bioaccumulation |
| Hexamethylene diacrylate 13048-33-4 | Workers | dermal | Long term exposure - systemic effects | | 2,77 mg/kg | |
| Hexamethylene diacrylate 13048-33-4 | Workers | inhalation | Long term exposure - systemic effects | | 24,48 mg/m3 | |
| Hexamethylene diacrylate 13048-33-4 | General population | dermal | Long term exposure - systemic effects | | 1,66 mg/kg | |
| Hexamethylene diacrylate 13048-33-4 | General population | inhalation | Long term exposure - systemic effects | | 7,24 mg/m3 | |
| Hexamethylene diacrylate 13048-33-4 | General population | oral | Long term exposure - systemic effects | | 2,08 mg/kg | |
| Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1 | Workers | dermal | Long term exposure - systemic effects | | 4,2 mg/kg | no hazard identified |
| Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1 | Workers | Inhalation | Long term exposure - systemic effects | | 14,7 mg/m3 | no hazard identified |
| Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1 | General population | dermal | Long term exposure - systemic effects | | 2,5 mg/kg | no hazard identified |
| Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1 | General population | Inhalation | Long term exposure - systemic effects | | 8,8 mg/m3 | no hazard identified |
| Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1 | General population | oral | Long term exposure - systemic effects | | 2,5 mg/kg | no hazard identified |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | Workers | inhalation | Long term exposure - systemic effects | | 3,5 mg/m3 | no hazard identified |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | Workers | dermal | Long term exposure - systemic effects | | 0,5 mg/kg | no hazard identified |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | General population | inhalation | Long term exposure - systemic effects | | 0,86 mg/m3 | no hazard identified |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | General population | dermal | Long term exposure - systemic effects | | 0,25 mg/kg | no hazard identified |
| 2,6-Di-tert-butyl-p-cresol 128-37-0 | General population | oral | Long term exposure - systemic effects | | 0,25 mg/kg | no hazard identified |
| Hydroquinone 123-31-9 | Workers | dermal | Long term exposure - | | 3,33 mg/kg | |

| | | ĺ | systemic effects | |
|--------------|------------|------------|------------------|------------|
| Hydroquinone | Workers | inhalation | Long term | 2,1 mg/m3 |
| 123-31-9 | | | exposure - | |
| | | | systemic effects | |
| Hydroquinone | General | dermal | Long term | 1,66 mg/kg |
| 123-31-9 | population | | exposure - | |
| | | | systemic effects | |
| Hydroquinone | General | inhalation | Long term | 1,05 mg/m3 |
| 123-31-9 | population | | exposure - | |
| | | | systemic effects | |
| Hydroquinone | General | oral | Long term | 0,6 mg/kg |
| 123-31-9 | population | | exposure - | |
| | | | systemic effects | |

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:

Ensure good ventilation/suction at the workplace.

Respiratory protection:

Ensure adequate ventilation.

An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area

Filter type: A (EN 14387)

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing. Protective eye equipment should conform to EN166.

Skin protection:

Wear suitable protective clothing.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state liquid
Delivery form liquid
Colour green
Odor characteristic

Melting point Not applicable, Product is a liquid

Solidification temperature < 0 °C (< 32 °F) Initial boiling point < 0 °C (< 32 °F) < 0 °C (< 399.2 °F)

Flammability Currently under determination Explosive limits Currently under determination Flash point 93,3 °C (199.94 °F); None Auto-ignition temperature > 200 °C (> 392 °F)

Decomposition temperature Not applicable, Substance/mixture is not self-reactive, no

organic peroxide and does not decompose under foreseen

conditions of use Not applicable

Viscosity (kinematic) Currently under determination

Viscosity, dynamic 11.500 cp no method

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Solubility (qualitative) Insoluble

(Solvent: Water)

Partition coefficient: n-octanol/water Not applicable

Mixture

Vapour pressure 0,1 mm hg;None
Density 1,020 g/cm3 None

(20 °C (68 °F))

Relative vapour density:

Particle characteristics

Not available.

Not applicable

Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

Reaction with strong bases Reaction with strong oxidants. Reducing agents. Peroxides.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Protect from direct sunlight.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

None if used for intended purpose.

SECTION 11: Toxicological information

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

Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances | Value | Value | Species | Method |
|---------------------------|-------|---------------|---------|--|
| CAS-No. | type | | | |
| 2-[(3a,4,5,6,7,7a- | LD50 | > 5.000 mg/kg | rat | |
| Hexahydro-4,7-methano- | | | | |
| 1H-inden-6-yl)oxy]ethyl | | | | |
| acrylate | | | | |
| 65983-31-5 | | | | |
| 2-Hydroxy-2- | LD50 | 1.694 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| methylpropiophenone | | | | |
| 7473-98-5 | | | | |
| Isobornyl acrylate | LD50 | 4.350 mg/kg | rat | not specified |
| 5888-33-5 | | | | |
| 1,6-Hexanediol diacrylate | LD50 | > 5.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| 13048-33-4 | | | | |
| Hydroxypropyl | LD50 | > 2.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| methacrylate | | | | |
| 27813-02-1 | | | | |
| Butyl hydroxytoluene | LD50 | > 6.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| 128-37-0 | | | | |
| Hydroquinone | LD50 | 367 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| 123-31-9 | | | | |

Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances | Value | Value | Species | Method |
|--|-------|---------------|---------|--|
| CAS-No. | type | | | |
| 2-[(3a,4,5,6,7,7a- | LD50 | > 5.000 mg/kg | rabbit | |
| Hexahydro-4,7-methano- | | | | |
| 1H-inden-6-yl)oxy]ethyl | | | | |
| acrylate | | | | |
| 65983-31-5 | | | | |
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 | LD50 | 6.929 mg/kg | rat | OECD Guideline 402 (Acute Dermal Toxicity) |
| Isobornyl acrylate 5888-33-5 | LD50 | > 3.000 mg/kg | rabbit | not specified |
| 1,6-Hexanediol diacrylate 13048-33-4 | LD50 | 3.650 mg/kg | rabbit | OECD Guideline 402 (Acute Dermal Toxicity) |
| Hydroxypropyl | LD50 | > 5.000 mg/kg | rabbit | not specified |
| methacrylate | | | | |
| 27813-02-1 | | | | |
| Butyl hydroxytoluene | LD50 | > 2.000 mg/kg | rat | OECD Guideline 402 (Acute Dermal Toxicity) |
| 128-37-0 | | | | |
| Hydroquinone 123-31-9 | LD50 | > 2.000 mg/kg | rabbit | OECD Guideline 402 (Acute Dermal Toxicity) |

Acute inhalative toxicity:

No data available.

Skin corrosion/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances CAS-No. | Result | Exposure time | Species | Method |
|--|----------------|---------------|---------|--|
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 | not irritating | 24 h | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Isobornyl acrylate 5888-33-5 | irritating | | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| 1,6-Hexanediol diacrylate 13048-33-4 | irritating | 4 h | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Hydroxypropyl methacrylate 27813-02-1 | not irritating | 24 h | rabbit | Draize Test |
| Butyl hydroxytoluene 128-37-0 | not irritating | 4 h | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Hydroquinone 123-31-9 | not irritating | 24 h | rabbit | Weight of evidence |

Serious eye damage/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances | Result | Exposure | Species | Method |
|--|--|----------|---------|---|
| CAS-No. | | time | | |
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 | not irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| 1,6-Hexanediol diacrylate 13048-33-4 | irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Hydroxypropyl methacrylate 27813-02-1 | Category 2B (mildly irritating to eyes) | | rabbit | Draize Test |
| Butyl hydroxytoluene 128-37-0 | slightly irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |

Respiratory or skin sensitization:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances CAS-No. | Result | Test type | Species | Method |
|--|-----------------|---------------------------------------|------------|--|
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 | not sensitising | Guinea pig maximisation test | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| Isobornyl acrylate 5888-33-5 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| 1,6-Hexanediol diacrylate 13048-33-4 | sensitising | Guinea pig maximisation test | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| Hydroxypropyl methacrylate 27813-02-1 | not sensitising | Mouse local lymphnode assay (LLNA) | mouse | equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| Hydroxypropyl methacrylate 27813-02-1 | sensitising | Guinea pig maximisation test | guinea pig | not specified |
| Butyl hydroxytoluene 128-37-0 | not sensitising | Draize Test | guinea pig | Draize Test |
| Hydroquinone 123-31-9 | sensitising | Guinea pig maximisation test | guinea pig | equivalent or similar to OECD Guideline 406 (Skin Sensitisation) |
| Hydroquinone 123-31-9 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |

Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances | Result | Type of study / | Metabolic | Species | Method |
|--------------------------------------|----------|--------------------------------------|-------------------|--------------|---|
| CAS-No. | | Route of | activation / | - <u>-</u> | |
| | | administration | Exposure time | | |
| 2-Hydroxy-2- | negative | bacterial reverse | with and without | | OECD Guideline 471 |
| methylpropiophenone | | mutation assay (e.g | | | (Bacterial Reverse Mutation |
| 7473-98-5 | | Ames test) | | | Assay) |
| 2-Hydroxy-2- | negative | in vitro mammalian | with and without | | OECD Guideline 473 (In vitro |
| methylpropiophenone | | chromosome | | | Mammalian Chromosome |
| 7473-98-5 | | aberration test | | | Aberration Test) |
| 2-Hydroxy-2- | negative | mammalian cell | with and without | | OECD Guideline 476 (In vitro |
| methylpropiophenone | | gene mutation assay | | | Mammalian Cell Gene |
| 7473-98-5 | | | | | Mutation Test) |
| Isobornyl acrylate | negative | bacterial reverse | with and without | | OECD Guideline 471 |
| 5888-33-5 | | mutation assay (e.g | | | (Bacterial Reverse Mutation |
| Y 1 1 1 . | | Ames test) | 1.1 1 1.1 | | Assay) |
| Isobornyl acrylate | negative | mammalian cell | with and without | | OECD Guideline 476 (In vitro |
| 5888-33-5 | | gene mutation assay | | | Mammalian Cell Gene |
| T 1 1 1. | | 1 | 24 1 24 4 | | Mutation Test) |
| Isobornyl acrylate 5888-33-5 | negative | in vitro mammalian cell micronucleus | with and without | | OECD Guideline 487 (In vitro Mammalian Cell |
| 3666-33-3 | | test | | | Micronucleus Test) |
| 1.6 Hayamadial diaawilata | negative | bacterial reverse | with and without | | OECD Guideline 471 |
| 1,6-Hexanediol diacrylate 13048-33-4 | negative | mutation assay (e.g | with and without | | (Bacterial Reverse Mutation |
| 13046-33-4 | | Ames test) | | | Assay) |
| 1,6-Hexanediol diacrylate | negative | mammalian cell | with and without | | OECD Guideline 476 (In vitro |
| 13048-33-4 | negative | gene mutation assay | with and without | | Mammalian Cell Gene |
| 13046-33-4 | | gene mutation assay | | | Mutation Test) |
| Hydroxypropyl | negative | bacterial reverse | with and without | | OECD Guideline 471 |
| methacrylate | negative | mutation assay (e.g | with and without | | (Bacterial Reverse Mutation |
| 27813-02-1 | | Ames test) | | | Assay) |
| Hydroxypropyl | positive | in vitro mammalian | with and without | | Chromosome Aberration Test |
| methacrylate | positive | chromosome | with and without | | Chromosome Aberration Test |
| 27813-02-1 | | aberration test | | | |
| Hydroxypropyl | negative | mammalian cell | with and without | | OECD Guideline 476 (In vitro |
| methacrylate | negative | gene mutation assay | with the without | | Mammalian Cell Gene |
| 27813-02-1 | | gene matation assay | | | Mutation Test) |
| Butyl hydroxytoluene | negative | bacterial reverse | with and without | | not specified |
| 128-37-0 | neguire | mutation assay (e.g | Williams Williams | | not specified |
| | | Ames test) | | | |
| Butyl hydroxytoluene | negative | in vitro mammalian | with and without | | not specified |
| 128-37-0 | | chromosome | | | 1 |
| | | aberration test | | | |
| Butyl hydroxytoluene | negative | mammalian cell | with | | not specified |
| 128-37-0 | | gene mutation assay | | | |
| Hydroquinone | negative | bacterial reverse | with and without | | equivalent or similar to OECD |
| 123-31-9 | | mutation assay (e.g | | | Guideline 471 (Bacterial |
| | | Ames test) | | | Reverse Mutation Assay) |
| Hydroquinone | negative | in vitro mammalian | with and without | | OECD Guideline 473 (In vitro |
| 123-31-9 | | chromosome | | | Mammalian Chromosome |
| | | aberration test | | | Aberration Test) |
| Hydroquinone | positive | mammalian cell | with and without | | OECD Guideline 476 (In vitro |
| 123-31-9 | | gene mutation assay | | | Mammalian Cell Gene |
| | | | | | Mutation Test) |
| 1,6-Hexanediol diacrylate | negative | intraperitoneal | | mouse | OECD Guideline 474 |
| 13048-33-4 | | | | | (Mammalian Erythrocyte |
| | | | | | Micronucleus Test) |
| Hydroxypropyl | negative | oral: gavage | | mouse | OECD Guideline 474 |
| methacrylate | | | | | (Mammalian Erythrocyte |
| 27813-02-1 | | 1 | | - · · · | Micronucleus Test) |
| Hydroxypropyl | negative | oral: gavage | | Drosophila | not specified |
| methacrylate | | | | melanogaster | |
| 27813-02-1 | | 1.0.1 | | 1. | |
| Butyl hydroxytoluene | negative | oral: feed | | rat | not specified |
| 128-37-0 | .,. | | | 1 | 114 17 000 |
| Hydroquinone | positive | intraperitoneal | | mouse | equivalent or similar to OECD |
| 123-31-9 | | | | | Guideline 474 (Mammalian |
| | | | | | Erythrocyte Micronucleus |
| Undroquinono | nagativa | orali cavaca | | rot | Test) |
| Hydroquinone 123-31-9 | negative | oral: gavage | | rat | equivalent or similar to OECD Guideline 478 (Genetic |
| 143-31-7 | | | | | Toxicology: Rodent Dominant |
| | İ | 1 | l | l | Toxicology. Rought Dominant |

| | | | | Lethal Test) | i |
|--------------|----------|-----------------|-------|-------------------------------|---|
| Hydroquinone | positive | intraperitoneal | mouse | equivalent or similar to OECD | |
| 123-31-9 | | - | | Guideline 483 (Mammalian | |
| | | | | Spermatogonial Chromosome | |
| | | | | Aberration Test) | |

Carcinogenicity

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous components CAS-No. | Result | Route of application | Exposure time / Frequency of treatment | Species | Sex | Method |
|---|------------------|----------------------|---|---------|-------------|---|
| Hydroxypropyl methacrylate 27813-02-1 | not carcinogenic | inhalation | 2 y 6 h/d, 5 d/w | rat | male | equivalent or similar OECD Guideline 451 (Carcinogenicity Studies) |
| Butyl hydroxytoluene 128-37-0 | | oral: feed | 2 y daily | rat | male | |
| Hydroquinone 123-31-9 | carcinogenic | oral: gavage | 103 w 5 d/w | rat | male/female | equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |
| Hydroquinone 123-31-9 | carcinogenic | oral: gavage | 103 w 5 d/w | mouse | female | equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |

Reproductive toxicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances CAS-No. | Result / Value | Test type | Route of application | Species | Method |
|---|--|-----------------------------|----------------------|---------|---|
| Isobornyl acrylate 5888-33-5 | NOAEL P 100 mg/kg NOAEL F1 100 mg/kg | screening | oral: gavage | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| 1,6-Hexanediol diacrylate 13048-33-4 | NOAEL P 250 mg/kg | screening | oral: gavage | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| Hydroxypropyl methacrylate 27813-02-1 | NOAEL P 300 mg/kg NOAEL F1 1.000 mg/kg | screening | oral: gavage | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| Hydroxypropyl methacrylate 27813-02-1 | NOAEL P 400 mg/kg NOAEL F1 400 mg/kg | two- generation study | oral: gavage | rat | OECD Guideline 416 (Two- Generation Reproduction Toxicity Study) |
| Butyl hydroxytoluene 128-37-0 | NOAEL P 500 mg/kg | Two generation study | oral: feed | rat | not specified |
| Hydroquinone 123-31-9 | NOAEL P 15 mg/kg NOAEL F1 150 mg/kg NOAEL F2 150 mg/kg | Two generation study | oral: gavage | rat | EPA OTS 798.4700 (Reproduction and Fertility Effects) |

STOT-single exposure:

No data available.

STOT-repeated exposure::

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances CAS-No. | Result / Value | Route of application | Exposure time / Frequency of treatment | Species | Method |
|--|------------------|----------------------|--|---------|---|
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 | NOAEL 50 mg/kg | oral: gavage | 92-93 d daily | rat | OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |
| Isobornyl acrylate 5888-33-5 | NOAEL 100 mg/kg | oral: gavage | once daily | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| 1,6-Hexanediol diacrylate 13048-33-4 | NOAEL 250 mg/kg | oral: gavage | 28 - 52 d daily | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| Hydroxypropyl methacrylate 27813-02-1 | NOAEL 300 mg/kg | oral: gavage | 49 d daily | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| Hydroxypropyl methacrylate 27813-02-1 | NOAEL 0,352 mg/l | inhalation | 90 d 6 h/d, 5 d/w | rat | OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day) |
| Butyl hydroxytoluene 128-37-0 | NOAEL 25 mg/kg | oral: feed | daily | rat | not specified |
| Hydroquinone 123-31-9 | NOAEL 50 mg/kg | oral: gavage | 13 w 5 d/w | rat | not specified |
| Hydroquinone 123-31-9 | NOAEL 73,9 mg/kg | dermal | 13 w 6 h/d, 5 d/w | rat | equivalent or similar to OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study) |

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

SECTION 12: Ecological information

General ecological information:

Do not empty into drains / surface water / ground water.

12.1. Toxicity

Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances | Value | Value | Exposure time | Species | Method |
|--|-------|-----------------------------|---------------|---|--|
| CAS-No. | type | | | | |
| 2-[(3a,4,5,6,7,7a-Hexahydro- 4,7-methano-1H-inden-6- yl)oxy]ethyl acrylate 65983-31-5 | LC50 | 9 mg/l | 96 h | Lepomis macrochirus | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 | LC50 | 160 mg/l | 48 h | Leuciscus idus | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Isobornyl acrylate 5888-33-5 | LC50 | 0,704 mg/l | 96 h | Danio rerio | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| 1,6-Hexanediol diacrylate 13048-33-4 | LC50 | 0,38 mg/l | 96 h | Oryzias latipes | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| 1,6-Hexanediol diacrylate 13048-33-4 | NOEC | 0,072 mg/l | 39 d | Oryzias latipes | OECD Guideline 210 (fish early lite stage toxicity test) |
| Hydroxypropyl methacrylate 27813-02-1 | LC50 | 493 mg/l | 48 h | Leuciscus idus melanotus | DIN 38412-15 |
| Butyl hydroxytoluene 128-37-0 | LC50 | Toxicity > Water solubility | 96 h | Brachydanio rerio (new name: Danio rerio) | EU Method C.1 (Acute Toxicity for Fish) |
| Butyl hydroxytoluene 128-37-0 | NOEC | 0,053 mg/l | 30 d | Oryzias latipes | OECD Guideline 210 (fish early lite stage toxicity test) |
| Hydroquinone 123-31-9 | LC50 | 0,638 mg/l | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |

Toxicity (Daphnia):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances CAS-No. | Value type | Value | Exposure time | Species | Method |
|--|---------------|------------|---------------|---------------|--|
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 | EC50 | > 119 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Isobornyl acrylate 5888-33-5 | EC50 | l mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| 1,6-Hexanediol diacrylate 13048-33-4 | EC50 | 2,7 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Hydroxypropyl methacrylate 27813-02-1 | EC50 | > 143 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Butyl hydroxytoluene 128-37-0 | EC50 | 0,48 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Hydroquinone 123-31-9 | EC50 | 0,134 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |

Chronic toxicity to aquatic invertebrates

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---------------|------------|---------------|---------------|--|
| Isobornyl acrylate 5888-33-5 | NOEC | 0,092 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| 1,6-Hexanediol diacrylate 13048-33-4 | NOEC | 0,14 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Hydroxypropyl methacrylate 27813-02-1 | NOEC | 45,2 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Butyl hydroxytoluene | NOEC | 0,069 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia |

| 128-37-0 | | | | | magna, Reproduction Test) |
|--------------|------|-------------|------|---------------|---------------------------|
| Hydroquinone | NOEC | 0,0057 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia |
| 123-31-9 | | _ | | | magna, Reproduction Test) |

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances | Value | Value | Exposure time | Species | Method |
|--|-------|-----------------------------|---------------|---|--|
| CAS-No. | type | | _ | 1 | |
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 | EC50 | 1,95 mg/l | 72 h | Desmodesmus subspicatus | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 | NOEC | 0,194 mg/l | 72 h | Desmodesmus subspicatus | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Isobornyl acrylate 5888-33-5 | NOEC | 0,405 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Isobornyl acrylate 5888-33-5 | EC50 | 1,98 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 1,6-Hexanediol diacrylate 13048-33-4 | EC50 | 2,33 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 1,6-Hexanediol diacrylate 13048-33-4 | NOEC | 0,9 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Hydroxypropyl methacrylate 27813-02-1 | EC50 | > 97,2 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Hydroxypropyl methacrylate 27813-02-1 | NOEC | > 97,2 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Butyl hydroxytoluene 128-37-0 | EC50 | Toxicity > Water solubility | 72 h | Desmodesmus subspicatus (reported as Scenedesmus subspicatus) | EU Method C.3 (Algal Inhibition test) |
| Butyl hydroxytoluene 128-37-0 | EC10 | 0,4 mg/l | 72 h | Desmodesmus subspicatus (reported as Scenedesmus subspicatus) | EU Method C.3 (Algal Inhibition test) |
| Hydroquinone 123-31-9 | EC50 | 0,335 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |

Toxicity to microorganisms

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances | Value | Value | Exposure time | Species | Method |
|----------------------------|-------|------------------|---------------|------------------|------------------------------|
| CAS-No. | type | | | | |
| 2-Hydroxy-2- | EC 50 | 3 mg/l | 3 h | | OECD Guideline 209 |
| methylpropiophenone | | | | | (Activated Sludge, |
| 7473-98-5 | | | | | Respiration Inhibition Test) |
| 1,6-Hexanediol diacrylate | EC20 | 60 mg/l | 30 min | activated sludge | OECD Guideline 209 |
| 13048-33-4 | | | | | (Activated Sludge, |
| | | | | | Respiration Inhibition Test) |
| Hydroxypropyl methacrylate | EC10 | 1.140 mg/l | 16 h | | not specified |
| 27813-02-1 | | | | | |
| Butyl hydroxytoluene | EC50 | Toxicity > Water | 3 h | activated sludge | OECD Guideline 209 |
| 128-37-0 | | solubility | | _ | (Activated Sludge, |
| | | - | | | Respiration Inhibition Test) |
| Hydroquinone | EC 50 | 0,038 mg/l | 30 min | | not specified |
| 123-31-9 | | | | | |

12.2. Persistence and degradability

The product is not biodegradable.

| Hazardous substances CAS-No. | Result | Test type | Degradability | Exposure time | Method |
|--|------------------------------|-----------|---------------|---------------|--|
| 2-[(3a,4,5,6,7,7a-Hexahydro- 4,7-methano-1H-inden-6- yl)oxy]ethyl acrylate 65983-31-5 | | aerobic | 0 % | 30 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 | readily biodegradable | aerobic | 90 % | 28 d | OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test) |
| Isobornyl acrylate 5888-33-5 | inherently biodegradable | aerobic | 73,9 % | 60 d | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |
| Isobornyl acrylate 5888-33-5 | not readily biodegradable. | aerobic | 57 % | 28 d | OECD Guideline 310 (Ready BiodegradabilityCO2 in Sealed Vessels (Headspace Test) |
| 1,6-Hexanediol diacrylate 13048-33-4 | readily biodegradable | aerobic | 69 % | 28 d | OECD Guideline 310 (Ready BiodegradabilityCO2 in Sealed Vessels (Headspace Test) |
| 1,6-Hexanediol diacrylate 13048-33-4 | inherently biodegradable | aerobic | > 70 % | 28 d | OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test) |
| Hydroxypropyl methacrylate 27813-02-1 | readily biodegradable | aerobic | 94,2 % | 28 d | OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test) |
| Butyl hydroxytoluene 128-37-0 | not readily biodegradable. | aerobic | 4,5 % | 28 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |
| Butyl hydroxytoluene 128-37-0 | not inherently biodegradable | aerobic | 5,2 - 5,6 % | 35 d | OECD Guideline 302 C (Inherent Biodegradability: Modified MITI Test (II)) |
| Hydroquinone 123-31-9 | readily biodegradable | aerobic | 75 - 81 % | 30 d | EU Method C.4-E (Determination of the "Ready" BiodegradabilityClosed Bottle Test) |

12.3. Bioaccumulative potential

No data available.

| Hazardous substances CAS-No. | Bioconcentratio n factor (BCF) | Exposure time | Temperature | Species | Method |
|----------------------------------|-----------------------------------|---------------|-------------|-----------------|--|
| Isobornyl acrylate 5888-33-5 | 37 | 56 h | 24 °C | Danio rerio | OECD Guideline 305 (Bioconcentration: Flow-through Fish Test) |
| Butyl hydroxytoluene 128-37-0 | 330 - 1.800 | 56 d | | Cyprinus carpio | OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish) |

12.4. Mobility in soil

Cured adhesives are immobile.

| Hazardous substances CAS-No. | LogPow | Temperature | Method |
|--|--------|-------------|--|
| 2-Hydroxy-2- methylpropiophenone 7473-98-5 | 1,62 | 25 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Isobornyl acrylate 5888-33-5 | 4,52 | | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| 1,6-Hexanediol diacrylate 13048-33-4 | 2,81 | 25 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Hydroxypropyl methacrylate 27813-02-1 | 0,97 | 20 °C | not specified |
| Butyl hydroxytoluene 128-37-0 | 5,1 | | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Hydroquinone 123-31-9 | 0,59 | | EU Method A.8 (Partition Coefficient) |

12.5. Results of PBT and vPvB assessment

| Hazardous substances | PBT / vPvB |
|---------------------------------|--|
| CAS-No. | |
| 2-Hydroxy-2-methylpropiophenone | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very |
| 7473-98-5 | Bioaccumulative (vPvB) criteria. |
| Isobornyl acrylate | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very |
| 5888-33-5 | Bioaccumulative (vPvB) criteria. |
| 1,6-Hexanediol diacrylate | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very |
| 13048-33-4 | Bioaccumulative (vPvB) criteria. |
| Hydroxypropyl methacrylate | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very |
| 27813-02-1 | Bioaccumulative (vPvB) criteria. |
| Butyl hydroxytoluene | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very |
| 128-37-0 | Bioaccumulative (vPvB) criteria. |
| Hydroquinone | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very |
| 123-31-9 | Bioaccumulative (vPvB) criteria. |

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

In consultation with the responsible local authority, must be subjected to special treatment.

Disposal of uncleaned packages:

Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

Waste code

08 04 09* waste adhesives and sealants containing organic solvents and other dangerous substances
The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes
for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We
will be happy to advise you.

SECTION 14: Transport information

14.1. UN number or ID number

| ADR | 3082 |
|------|------|
| RID | 3082 |
| ADN | 3082 |
| IMDG | 3082 |
| IATA | 3082 |

14.2. UN proper shipping name

ADR ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(Dicyclopentyloxyethyl acrylate)

RID ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(Dicyclopentyloxyethyl acrylate)

ADN ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

 $(Dicyclopentyloxyethyl\ acrylate)$

IMDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(Dicyclopentyloxyethyl acrylate)

IATA Environmentally hazardous substance, liquid, n.o.s. (Dicyclopentyloxyethyl acrylate)

14.3. Transport hazard class(es)

| ADR | 9 |
|------|---|
| RID | 9 |
| ADN | 9 |
| IMDG | 9 |
| IATA | 9 |

14.4. Packing group

| ADR | Ш |
|------|-----|
| RID | III |
| ADN | III |
| IMDG | III |
| IATA | III |
| | |

14.5. Environmental hazards

| ADR | not applicable |
|------|------------------|
| RID | not applicable |
| ADN | not applicable |
| IMDG | Marine pollutant |
| IATA | not applicable |

14.6. Special precautions for user

| ADR | not applicable |
|------|----------------|
| | Tunnelcode: |
| RID | not applicable |
| ADN | not applicable |
| IMDG | not applicable |
| IATA | not applicable |

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

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

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009): Not applicable Prior Informed Consent (PIC) (Regulation (EU) No 649/2012): Not applicable Persistent organic pollutants (Regulation (EU) 2019/1021): Not applicable

VOC content < 3 %

(2010/75/EC)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text

of all abbreviations indicated by codes in this safety data sheet are as follows:

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H341 Suspected of causing genetic defects.

H351 Suspected of causing cancer.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

ED: Substance identified as having endocrine disrupting properties

EU OEL: Substance with a Union workplace exposure limit
EU EXPLD 1: Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2 Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC: Substance of very high concern (REACH Candidate List)
PBT: Substance fulfilling persistent, bioaccumulative and toxic criteria

PBT/vPvB: Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very

bioaccumulative criteria

vPvB: Substance fulfilling very persistent and very bioaccumulative criteria

Further information:

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This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

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Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.