



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

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LOCTITE 243

SDS No. : 316211
V012.1

Revision: 31.05.2022

printing date: 15.11.2022

Replaces version from: 04.04.2022

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

1.1. Product identifier

LOCTITE 243

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

Intended use:

Adhesive

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

ua-productsafety.uk@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or www.henkel-adhesives.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. | |
| Skin sensitizer | Category 1 |
| H317 May cause an allergic skin reaction. | |
| 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 3 |
| H412 Harmful to aquatic life with long lasting effects. | |

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Contains

Tetramethylene dimethacrylate

maleic acid

Acetic acid, 2-phenylhydrazide

Signal word:

Warning

Hazard statement:

H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statement:

**** For consumer use only: P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P501 Dispose of contents/container in accordance with national regulation. ****

**Precautionary statement:
Prevention**

P280 Wear protective gloves.
 P261 Avoid breathing vapors.
 P273 Avoid release to the environment.

**Precautionary statement:
Response**

P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

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 $\geq 0,1\%$ and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in concentration \geq 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 |
|--|----------------------|---|--|-------------------------|
| Tetramethylene dimethacrylate 2082-81-7 218-218-1 01-2119967415-30 | 25- < 50 % | Skin Sens. 1B, H317 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 | STOT SE 3; H335; C >= 10 % | |
| 2,4,6-Triallyloxy-s-triazine 101-37-1 202-936-7 01-2119489756-17 | 5- < 10 % | Acute Tox. 4, Oral, H302 Aquatic Chronic 2, H411 | | |
| 2-[[2,2-bis[[1-(1-oxoallyl)oxy)methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1 302-434-9 | 1- < 5 % | Eye Irrit. 2, H319 Aquatic Chronic 2, H411 | | |
| Cumene hydroperoxide 80-15-9 201-254-7 01-2119475796-19 | 0,1- < 1 % | STOT RE 2, H373 Skin Corr. 1B, H314 Acute Tox. 2, Inhalation, H330 Aquatic Chronic 2, H411 Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Org. Perox. E, H242 STOT SE 3, H335 | Skin Irrit. 2; H315; C 3 - < 10 % Eye Dam. 1; H318; C 3 - < 10 % Eye Irrit. 2; H319; C 1 - < 3 % Skin Corr. 1B; H314; C >= 10 % STOT SE 3; H335; C >= 1 % ===== dermal:ATE = 1.100 mg/kg | |
| maleic acid 110-16-7 203-742-5 01-2119488705-25 | 0,1- < 1 % | Acute Tox. 4, Oral, H302 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Skin Sens. 1, H317 Acute Tox. 4, Dermal, H312 | Skin Sens. 1; H317; C >= 0,1 % | |
| Acetic acid, 2-phenylhydrazide 114-83-0 204-055-3 | 0,1- < 1 % | Acute Tox. 3, Oral, H301 Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 STOT SE 3, Inhalation, H335 Carc. 2, H351 | | |
| 1,4-Naphthalenedione 130-15-4 204-977-6 | 0,0025- < 0,025 % | Acute Tox. 3, Oral, H301 Skin Corr. 1C, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 Acute Tox. 1, Inhalation, H330 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 | M acute = 10 M chronic = 1 | |

**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. If symptoms persist, 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: Rash, Urticaria.

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

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:

water, carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x) can be released.

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

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Wear protective equipment.

Ensure adequate ventilation.

Keep away from sources of ignition.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Dispose of contaminated material as waste according to Section 13.

For small spills wipe up with paper towel and place in container for disposal.

For large spills absorb onto inert absorbent material and place in sealed container for disposal.

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.

See advice in section 8

Hygiene measures:

- Good industrial hygiene practices should be observed.
- Do not eat, drink or smoke while working.
- Wash hands before work breaks and after finishing work.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.
Refer to Technical Data Sheet

7.3. Specific end use(s)

Adhesive

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 |
|--|-----|-------------------|------------------------------|--|-----------------|
| Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, RESPIRABLE DUST] | | 2,4 | Time Weighted Average (TWA): | | EH40 WEL |
| Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, INHALABLE DUST] | | 6 | Time Weighted Average (TWA): | | EH40 WEL |
| Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [Dust, inhalable dust] | | 10 | Time Weighted Average (TWA): | | EH40 WEL |
| Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [Dust, respirable dust] | | 4 | Time Weighted Average (TWA): | | EH40 WEL |
| Ethene, homopolymer 9002-88-4 [DUST, INHALABLE DUST] | | 10 | Time Weighted Average (TWA): | | EH40 WEL |
| Ethene, homopolymer 9002-88-4 [DUST, RESPIRABLE DUST] | | 4 | Time Weighted Average (TWA): | | EH40 WEL |
| Propane-1,2-diol 57-55-6 [PROPANE-1,2-DIOL, PARTICULATES] | | 10 | Time Weighted Average (TWA): | | EH40 WEL |
| Propane-1,2-diol 57-55-6 [PROPANE-1,2-DIOL, TOTAL VAPOUR AND PARTICULATES] | 150 | 474 | Time Weighted Average (TWA): | | EH40 WEL |

Occupational Exposure Limits

Valid for
Ireland

| Ingredient [Regulated substance] | ppm | mg/m ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|--|-----|-------------------|------------------------------|--|-----------------|
| Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [DUSTS NON-SPECIFIC] | | 10 | Time Weighted Average (TWA): | | IR_OEL |
| Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS] | | 2,4 | Time Weighted Average (TWA): | | IR_OEL |
| Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS] | | 6 | Time Weighted Average (TWA): | | IR_OEL |
| Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [DUSTS NON-SPECIFIC] | | 4 | Time Weighted Average (TWA): | | IR_OEL |
| Ethene, homopolymer 9002-88-4 [DUSTS NON-SPECIFIC] | | 10 | Time Weighted Average (TWA): | | IR_OEL |
| Ethene, homopolymer 9002-88-4 [DUSTS NON-SPECIFIC] | | 4 | Time Weighted Average (TWA): | | IR_OEL |
| Propane-1,2-diol | | 10 | Time Weighted Average | | IR_OEL |

| | | | | | |
|---|-----|-----|---------------------------------|--|--------|
| 57-55-6 [PROPANE-1,2-DIOL] | | | (TWA): | | |
| Propane-1,2-diol 57-55-6 [PROPANE-1,2-DIOL] | 150 | 470 | Time Weighted Average (TWA): | | IR_OEL |

Predicted No-Effect Concentration (PNEC):

| Name on list | Environmental Compartment | Exposure period | Value | | | | Remarks |
|--|------------------------------------|-----------------|-----------------|-----|----------------|--------|---------|
| | | | mg/l | ppm | mg/kg | others | |
| Tetramethylene dimethacrylate 2082-81-7 | aqua (freshwater) | | 0,043 mg/l | | | | |
| Tetramethylene dimethacrylate 2082-81-7 | aqua (marine water) | | 0,004 mg/l | | | | |
| Tetramethylene dimethacrylate 2082-81-7 | aqua (intermittent releases) | | 0,098 mg/l | | | | |
| Tetramethylene dimethacrylate 2082-81-7 | sewage treatment plant (STP) | | 2 mg/l | | | | |
| Tetramethylene dimethacrylate 2082-81-7 | sediment (freshwater) | | | | 3,12 mg/kg | | |
| Tetramethylene dimethacrylate 2082-81-7 | sediment (marine water) | | | | 0,312 mg/kg | | |
| Tetramethylene dimethacrylate 2082-81-7 | Soil | | | | 0,573 mg/kg | | |
| 2,4,6-Triallyloxy-1,3,5-triazine 101-37-1 | aqua (freshwater) | | 0,007 mg/l | | | | |
| 2,4,6-Triallyloxy-1,3,5-triazine 101-37-1 | aqua (marine water) | | 0,001 mg/l | | | | |
| 2,4,6-Triallyloxy-1,3,5-triazine 101-37-1 | Freshwater - intermittent | | 0,07 mg/l | | | | |
| 2,4,6-Triallyloxy-1,3,5-triazine 101-37-1 | sediment (freshwater) | | | | 0,173 mg/kg | | |
| 2,4,6-Triallyloxy-1,3,5-triazine 101-37-1 | sediment (marine water) | | | | 0,017 mg/kg | | |
| 2,4,6-Triallyloxy-1,3,5-triazine 101-37-1 | Soil | | | | 0,057 mg/kg | | |
| 2,4,6-Triallyloxy-1,3,5-triazine 101-37-1 | sewage treatment plant (STP) | | 10 mg/l | | | | |
| 2,4,6-Triallyloxy-1,3,5-triazine 101-37-1 | oral | | | | 0,119 mg/kg | | |
| 2-[[2,2-Bis[(1- oxoallyl)oxy]methyl]butoxy]methyl]-2- ethyl-1,3-propanediyl diacrylate 94108-97-1 | aqua (freshwater) | | 0,0012 mg/l | | | | |
| 2-[[2,2-Bis[(1- oxoallyl)oxy]methyl]butoxy]methyl]-2- ethyl-1,3-propanediyl diacrylate 94108-97-1 | Soil | | | | 0,096 mg/kg | | |
| 2-[[2,2-Bis[(1- oxoallyl)oxy]methyl]butoxy]methyl]-2- ethyl-1,3-propanediyl diacrylate 94108-97-1 | sediment (marine water) | | | | 0,005 mg/kg | | |
| 2-[[2,2-Bis[(1- oxoallyl)oxy]methyl]butoxy]methyl]-2- ethyl-1,3-propanediyl diacrylate 94108-97-1 | sediment (freshwater) | | | | 0,048 mg/kg | | |
| 2-[[2,2-Bis[(1- oxoallyl)oxy]methyl]butoxy]methyl]-2- ethyl-1,3-propanediyl diacrylate 94108-97-1 | sewage treatment plant (STP) | | 100 mg/l | | | | |
| 2-[[2,2-Bis[(1- oxoallyl)oxy]methyl]butoxy]methyl]-2- ethyl-1,3-propanediyl diacrylate 94108-97-1 | aqua (intermittent releases) | | 0,012 mg/l | | | | |
| 2-[[2,2-Bis[(1- oxoallyl)oxy]methyl]butoxy]methyl]-2- ethyl-1,3-propanediyl diacrylate 94108-97-1 | aqua (marine water) | | 0,00012 mg/l | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | aqua (freshwater) | | 0,0031 mg/l | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | aqua (intermittent releases) | | 0,031 mg/l | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | aqua (marine water) | | 0,00031 mg/l | | | | |

| | | | | | | | |
|--|------------------------------|--|-------------|--|--------------|--|--|
| .alpha.,alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | sewage treatment plant (STP) | | 0,35 mg/l | | | | |
| .alpha.,alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | sediment (freshwater) | | | | 0,023 mg/kg | | |
| .alpha.,alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | sediment (marine water) | | | | 0,0023 mg/kg | | |
| .alpha.,alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | Soil | | | | 0,0029 mg/kg | | |
| Maleic acid 110-16-7 | aqua (freshwater) | | 0,1 mg/l | | | | |
| Maleic acid 110-16-7 | aqua (intermittent releases) | | 0,4281 mg/l | | | | |
| Maleic acid 110-16-7 | sediment (freshwater) | | | | 0,334 mg/kg | | |
| Maleic acid 110-16-7 | sewage treatment plant (STP) | | 44,6 mg/l | | | | |
| Maleic acid 110-16-7 | aqua (marine water) | | 0,01 mg/l | | | | |
| Maleic acid 110-16-7 | sediment (marine water) | | | | 0,0334 mg/kg | | |
| Maleic acid 110-16-7 | Soil | | | | 0,0415 mg/kg | | |

Derived No-Effect Level (DNEL):

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|---|--------------------|-------------------|--|---------------|-------------------------|---------|
| Tetramethylene dimethacrylate 2082-81-7 | Workers | dermal | Long term exposure - systemic effects | | 4,2 mg/kg | |
| Tetramethylene dimethacrylate 2082-81-7 | Workers | inhalation | Long term exposure - systemic effects | | 14,5 mg/m ³ | |
| Tetramethylene dimethacrylate 2082-81-7 | General population | inhalation | Long term exposure - systemic effects | | 4,3 mg/m ³ | |
| Tetramethylene dimethacrylate 2082-81-7 | General population | dermal | Long term exposure - systemic effects | | 2,5 mg/kg | |
| Tetramethylene dimethacrylate 2082-81-7 | General population | oral | Long term exposure - systemic effects | | 2,5 mg/kg | |
| 2,4,6-Triallyloxy-1,3,5-triazine 101-37-1 | Workers | inhalation | Acute/short term exposure - systemic effects | | 134,4 mg/m ³ | |
| 2,4,6-Triallyloxy-1,3,5-triazine 101-37-1 | Workers | dermal | Long term exposure - systemic effects | | 1,5 mg/kg | |
| 2,4,6-Triallyloxy-1,3,5-triazine 101-37-1 | Workers | inhalation | Long term exposure - systemic effects | | 2,12 mg/m ³ | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | Workers | inhalation | Long term exposure - systemic effects | | 6 mg/m ³ | |
| Maleic acid 110-16-7 | Workers | dermal | Acute/short term exposure - local effects | | 0,55 mg/cm ² | |
| Maleic acid 110-16-7 | Workers | dermal | Long term exposure - local effects | | 0,04 mg/cm ² | |
| Maleic acid 110-16-7 | Workers | dermal | Acute/short term exposure - systemic effects | | 58 mg/kg | |
| Maleic acid 110-16-7 | Workers | dermal | Long term exposure - systemic effects | | 3,3 mg/kg | |
| Maleic acid 110-16-7 | Workers | inhalation | Acute/short term exposure - local effects | | 3 mg/m ³ | |
| Maleic acid 110-16-7 | Workers | inhalation | Long term exposure - systemic effects | | 3 mg/m ³ | |
| Maleic acid 110-16-7 | Workers | inhalation | Long term exposure - local effects | | 3 mg/m ³ | |
| Maleic acid 110-16-7 | Workers | inhalation | Acute/short term exposure - systemic effects | | 3 mg/m ³ | |

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:

Ensure good ventilation/extraction.

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; \geq 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; \geq 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 | Currently under determination |
| Colour | blue |
| Odor | characteristic |
| Melting point | Currently under determination |
| Initial boiling point | > 70 °C (> 158 °F) |
| Initial boiling point | < 149 °C (< 300.2 °F) |
| Flammability | Currently under determination |
| Explosive limits | Currently under determination |
| Flash point | > 93 °C (> 199.4 °F) |
| Auto-ignition temperature | Currently under determination |
| Decomposition temperature | Currently under determination |
| pH | Not applicable, Product reacts with water. |
| Viscosity (kinematic) | Currently under determination |
| Solubility (qualitative) (Solvent: Water) | Insoluble |
| Solubility (qualitative) (Solvent: Acetone) | Soluble |
| Partition coefficient: n-octanol/water | Currently under determination |
| Vapour pressure (25 °C (77 °F)) | 1,7 mbar |
| Vapour pressure (50 °C (122 °F)) | < 300 mbar;no method |
| Density () | 1,08 g/cm ³ no method |
| Relative vapour density: | Currently under determination |
| Particle characteristics | Currently under determination |

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with strong oxidants.

Acids.

Reducing agents.

Strong bases.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Stable under normal conditions of storage and use.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

carbon oxides.

Hydrocarbons

nitrogen oxides

Rapid polymerisation may generate excessive heat and pressure.

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 CAS-No. | Value type | Value | Species | Method |
|--|---------------|---------------|---------|---|
| Tetramethylene dimethacrylate 2082-81-7 | LD50 | 10.066 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| 2,4,6-Triallyloxy-s-triazine 101-37-1 | LD50 | 753 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| 2-[[[2,2-bis[[[1-oxoallyl]oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1 | LD50 | > 5.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| Cumene hydroperoxide 80-15-9 | LD50 | 382 mg/kg | rat | other guideline: |
| maleic acid 110-16-7 | LD50 | 708 mg/kg | rat | not specified |
| Acetic acid, 2-phenylhydrazide 114-83-0 | LD50 | 270 mg/kg | rat | not specified |
| 1,4-Naphthalenedione 130-15-4 | LD50 | 124 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |

Acute dermal toxicity:

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

| Hazardous substances CAS-No. | Value type | Value | Species | Method |
|---|-------------------------------|---------------|---------|--|
| Tetramethylene dimethacrylate 2082-81-7 | LD50 | > 3.000 mg/kg | rabbit | not specified |
| 2,4,6-Triallyloxy-s-triazine 101-37-1 | LD50 | > 2.000 mg/kg | rabbit | OECD Guideline 402 (Acute Dermal Toxicity) |
| 2-[[2,2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1 | LD50 | > 2.000 mg/kg | rat | not specified |
| Cumene hydroperoxide 80-15-9 | Acute toxicity estimate (ATE) | 1.100 mg/kg | | Expert judgement |
| maleic acid 110-16-7 | LD50 | 1.560 mg/kg | rabbit | not specified |

Acute inhalative toxicity:

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

| Hazardous substances CAS-No. | Value type | Value | Test atmosphere | Exposure time | Species | Method |
|----------------------------------|---------------|------------|-----------------|------------------|---------|--|
| Cumene hydroperoxide 80-15-9 | LC50 | 1,370 mg/l | vapour | 4 h | rat | not specified |
| 1,4-Naphthalenedione 130-15-4 | LC50 | 0,046 mg/l | dust/mist | 4 h | rat | OECD Guideline 403 (Acute Inhalation Toxicity) |

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 |
|----------------------------------|-------------------------|------------------|---------|--|
| Cumene hydroperoxide 80-15-9 | corrosive | | rabbit | Draize Test |
| maleic acid 110-16-7 | irritating | 24 h | human | Patch Test |
| 1,4-Naphthalenedione 130-15-4 | Category 1C (corrosive) | | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |

Serious eye damage/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-[[2,2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1 | Category 2 (irritant) | | rabbit | EU Method B.5 (Acute Toxicity: Eye Irritation / Corrosion) |
| maleic acid 110-16-7 | highly 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 |
|--|-------------|------------------------------------|------------|---|
| Tetramethylene dimethacrylate 2082-81-7 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| maleic acid 110-16-7 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| maleic acid 110-16-7 | sensitising | Mouse local lymphnode assay (LLNA) | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| 1,4-Naphthalenedione 130-15-4 | sensitising | not specified | guinea pig | not specified |

Germ cell mutagenicity:

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

| Hazardous substances CAS-No. | Result | Type of study / Route of administration | Metabolic activation / Exposure time | Species | Method |
|--|----------|--|---|---------|--|
| Tetramethylene dimethacrylate 2082-81-7 | negative | in vitro mammalian chromosome aberration test | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Tetramethylene dimethacrylate 2082-81-7 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Tetramethylene dimethacrylate 2082-81-7 | positive | in vitro mammalian chromosome aberration test | with and without | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| Cumene hydroperoxide 80-15-9 | positive | bacterial reverse mutation assay (e.g Ames test) | without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| maleic acid 110-16-7 | negative | bacterial reverse mutation assay (e.g Ames test) | no data | | Ames Test |
| maleic acid 110-16-7 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation 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 |
|---------------------------------|------------------|----------------------|---|---------|-------------|--|
| maleic acid 110-16-7 | not carcinogenic | oral: feed | 2 y daily | rat | male/female | OECD Guideline 451 (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 |
|---------------------------------|---|----------------------|----------------------|---------|---|
| maleic acid 110-16-7 | NOAEL F1 150 mg/kg NOAEL F2 55 mg/kg | Two generation study | oral: gavage | rat | OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |

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 |
|---|-----------------------|---------------------------------|---|----------------|--|
| Cumene hydroperoxide 80-15-9 | | inhalation: aerosol | 6 h/d 5 d/w | rat | not specified |
| maleic acid 110-16-7 | NOAEL >= 40 mg/kg | oral: feed | 90 d daily | rat | OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |

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 CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---------------|------------|---------------|---------------------|--|
| Tetramethylene dimethacrylate 2082-81-7 | LC50 | 32,5 mg/l | 48 h | | DIN 38412-15 |
| 2,4,6-Triallyloxy-s-triazine 101-37-1 | LC50 | 4,36 mg/l | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| 2-[[2,2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1 | LC50 | 1,2 mg/l | 96 h | Cyprinus carpio | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Cumene hydroperoxide 80-15-9 | LC50 | 3,9 mg/l | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| maleic acid 110-16-7 | LC50 | > 245 mg/l | 48 h | Leuciscus idus | DIN 38412-15 |
| 1,4-Naphthalenedione 130-15-4 | LC50 | 0,045 mg/l | 96 h | Oryzias latipes | 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 |
|---|---------------|-----------------|---------------|---------------|--|
| 2,4,6-Triallyloxy-s-triazine 101-37-1 | EC50 | 19,4 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| 2-[[2,2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1 | EC50 | > 10 - 100 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Cumene hydroperoxide 80-15-9 | EC50 | 18,84 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| maleic acid 110-16-7 | EC50 | 42,81 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| 1,4-Naphthalenedione 130-15-4 | EC50 | 0,026 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 |
|--|---------------|-----------|---------------|---------------|---|
| Tetramethylene dimethacrylate 2082-81-7 | NOEC | 5,09 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| maleic acid 110-16-7 | NOEC | 10 mg/l | 21 d | Daphnia magna | other guideline: |

Toxicity (Algae):

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 |
|---|---------------|-------------|---------------|---|---|
| Tetramethylene dimethacrylate 2082-81-7 | EC50 | 9,79 mg/l | 72 h | Desmodesmus subspicatus | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Tetramethylene dimethacrylate 2082-81-7 | NOEC | 2,11 mg/l | 72 h | Desmodesmus subspicatus | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-[[2,2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1 | EC50 | > 12 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-[[2,2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1 | NOEC | < 0,35 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Cumene hydroperoxide 80-15-9 | EC50 | 3,1 mg/l | 72 h | Desmodesmus subspicatus (reported as Scenedesmus subspicatus) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Cumene hydroperoxide 80-15-9 | NOEC | 1 mg/l | 72 h | Desmodesmus subspicatus (reported as Scenedesmus subspicatus) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| maleic acid 110-16-7 | EC50 | 74,35 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| maleic acid 110-16-7 | EC10 | 11,8 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 1,4-Naphthalenedione 130-15-4 | NOEC | 0,07 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 1,4-Naphthalenedione 130-15-4 | EC50 | 0,42 mg/l | 72 h | 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 CAS-No. | Value type | Value | Exposure time | Species | Method |
|--|---------------|-----------|---------------|---|--|
| Tetramethylene dimethacrylate 2082-81-7 | NOEC | 20 mg/l | 28 d | activated sludge, domestic | not specified |
| 2,4,6-Triallyloxy-s-triazine 101-37-1 | EC0 | 5 mg/l | 3 h | | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |
| Cumene hydroperoxide 80-15-9 | EC10 | 70 mg/l | 30 min | not specified | not specified |
| maleic acid 110-16-7 | EC10 | 44,6 mg/l | 18 h | Pseudomonas putida | DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test) |
| 1,4-Naphthalenedione 130-15-4 | EC50 | 5,94 mg/l | 3 h | activated sludge of a predominantly domestic sewage | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |

12.2. Persistence and degradability

| Hazardous substances CAS-No. | Result | Test type | Degradability | Exposure time | Method |
|---|----------------------------|-----------|---------------|------------------|--|
| Tetramethylene dimethacrylate 2082-81-7 | readily biodegradable | aerobic | 84 % | 28 d | OECD Guideline 310 (Ready Biodegradability CO ₂ in Sealed Vessels (Headspace Test)) |
| 2,4,6-Triallyloxy-s-triazine 101-37-1 | | aerobic | 7 - 9 % | 28 d | OECD Guideline 301 B (Ready Biodegradability: CO ₂ Evolution Test) |
| 2-[[2,2-bis[[[1- oxoallyl]oxy]methyl]butoxy] methyl]-2-ethyl-1,3- propanediyl diacrylate 94108-97-1 | | aerobic | 4 - 14 % | 29 d | OECD Guideline 301 B (Ready Biodegradability: CO ₂ Evolution Test) |
| Cumene hydroperoxide 80-15-9 | not readily biodegradable. | aerobic | 3 % | 28 d | OECD Guideline 301 B (Ready Biodegradability: CO ₂ Evolution Test) |
| maleic acid 110-16-7 | readily biodegradable | aerobic | 97,08 % | 28 d | OECD Guideline 301 B (Ready Biodegradability: CO ₂ Evolution Test) |
| 1,4-Naphthalenedione 130-15-4 | not readily biodegradable. | aerobic | 0 % | 28 d | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |

12.3. Bioaccumulative potential

| Hazardous substances CAS-No. | Bioconcentratio n factor (BCF) | Exposure time | Temperature | Species | Method |
|---------------------------------|-----------------------------------|---------------|-------------|-------------|---|
| Cumene hydroperoxide 80-15-9 | 9,1 | | | calculation | OECD Guideline 305 (Bioconcentration: Flow-through Fish Test) |

12.4. Mobility in soil

| Hazardous substances CAS-No. | LogPow | Temperature | Method |
|---|--------|-------------|--|
| Tetramethylene dimethacrylate 2082-81-7 | 3,1 | | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| 2,4,6-Triallyloxy-s-triazine 101-37-1 | 2,8 | 20 °C | not specified |
| 2-[[2,2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1 | 4,14 | 30 °C | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| Cumene hydroperoxide 80-15-9 | 1,6 | 25 °C | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| maleic acid 110-16-7 | -1,3 | 20 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Acetic acid, 2-phenylhydrazide 114-83-0 | 0,74 | | not specified |
| 1,4-Naphthalenedione 130-15-4 | 1,71 | | not specified |

12.5. Results of PBT and vPvB assessment

| Hazardous substances CAS-No. | PBT / vPvB |
|---|---|
| Tetramethylene dimethacrylate 2082-81-7 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| 2,4,6-Triallyloxy-s-triazine 101-37-1 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| 2-[[2,2-bis[[1-(1-oxoallyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate 94108-97-1 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Cumene hydroperoxide 80-15-9 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| maleic acid 110-16-7 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| 1,4-Naphthalenedione 130-15-4 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very 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:

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

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

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

| | |
|------|---------------------|
| ADR | Not dangerous goods |
| RID | Not dangerous goods |
| ADN | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | Not dangerous goods |

14.2. UN proper shipping name

| | |
|------|---------------------|
| ADR | Not dangerous goods |
| RID | Not dangerous goods |
| ADN | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | Not dangerous goods |

14.3. Transport hazard class(es)

| | |
|------|---------------------|
| ADR | Not dangerous goods |
| RID | Not dangerous goods |
| ADN | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | Not dangerous goods |

14.4. Packing group

| | |
|------|---------------------|
| ADR | Not dangerous goods |
| RID | Not dangerous goods |
| ADN | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | Not dangerous goods |

14.5. Environmental hazards

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

14.6. Special precautions for user

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

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 (2010/75/EC) | < 3 % |

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:

H242 Heating may cause a fire.
 H301 Toxic if swallowed.
 H302 Harmful if swallowed.
 H312 Harmful in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H330 Fatal if inhaled.
 H335 May cause respiratory irritation.
 H351 Suspected of causing cancer.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H411 Toxic to aquatic life with long lasting effects.

| | |
|-------------|---|
| 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 |

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